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# Service Bulletin

U. S. FOREST SERVICE

(Contents Confidential)

Vol. VIII No. 1. Washington, D. C. January 7, 1924.


## AUTHORITY

By L. F. Kneipp, Washington

Periodically the Service is shaken to the soles of its collective boots by agitated discussion as to whether authority has any place at all in so pure a democracy. The two old wheel horses, Initiative and Judgment, spavined and wind-broken by many cruel jolts, are hooked to the chariot of Riotous Imagination and careen wildly around at the track, always stopping their stampede, be it noted, at the exact point from which they started. The idea that one man should impose his will upon another is denounced in burning terms. The man who invariably executes the ideas of his official superior is branded as a formalist and a formalist, as we all know, is worse than a Fearsome Creature of the North Woods. The twin thoughts, Self-Expression and Creative Effort, showing signs of overwork but no lack of pep, do a weird bit of interpretative dancing and finally the Theory of the Man On the Ground poses before the background of the idea that since he is the doer, he alone should say what he should do and how and when, if ever, he should do it. The fact that the Service survives these attacks speaks well for its constitution and the soundness of its organic arrangement, but many sympathetic observers are worried by increasing evidences that it really is suffering from these recurring inflictions.

Official authority, in the Forest Service at least, is nothing more or less than the right of decision as to whether, when and how certain things should or should not be done. Properly exercised, it should afford no grounds for resentment, no basis for the feeling that initiative or enterprise isebeing stifled, no occasion for upstage attitudes or holier-than-thou relationships between one member and another. To the contrary, the right of decision and its intelligent exercise is the strongest possible tie by which an organization can be held together and vitalized.

Responsibility and Accountability are its concomitants. The three are inseparable and together they form the foundation of all sound principles of organized human effort. One cannot be taken away or weakened without weakening the others. No member of the Service can be held either responsible or accountable for any act of omission over which he did not have the full and unhampered right of decision. That is fundamental justice. On the other hand, no one should escape responsibility or accountability for something in which he had the full right of decision.

Our present day organization is based on old style conceptions in which the ultra-radical thoughts of to-day had no part. We ought not to try to make an automobile by attaching a gas engine to the old family carry-all and expect all the results of a 1923 model. If the frequently expressed idea of unrestricted liberty of judgment and action is sound the Service should be reorganized accordingly. But here is the

question - is it sound? Does it represent the views of the great majority of the men most concerned? Will it give better results than a common-sense return to the principles under which the Service gained its greatest glory? The future of the Service depends on the answer.

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## SEARCH AND RESEARCH

By C. A. Neeper, D-2

For three or four years it was my major duty to wrangle new Forest clerks. When a clerical vacancy occurred in a Supervisor's office the "tramp clerk" was given the S.O.S. and usually remained on the job long enough to get the new clerk introduced. The process was expensive, but I believe it was economically justified. I am confident the scheme lessened the cost of breaking in new clerks. I feel that it costs the Service at least $300 to break in a new Forest clerk. The cost of breaking in clerks (S&T) is usually less than this, but is more expensive than at first we are inclined to feel.

The clerical turnover in the D-2 office has been high. Our financial loss by reason of inexperienced help has been heavy. There is virtually no opportunity for the clerical force to gain personal contact with the field work, with the result that it has usually required approximately a year for the new employees to become reasonably well acquainted with this job.

The D-2 office started its fall term with a class of six new clerks. By reason of the centralization of work and the large office organization, I am convinced that we have had many clerks come into our organization, remain for several months, and leave the Service without gaining a very accurate idea of what the Service work really is. From a result of this kind the Service loses in two ways. First, the employee does not render as good service as if he understood and felt himself a part of the Service work, and, second, after he leaves the Service and goes into other work, he is unable to convey to his associates what he should be able to convey of the Service spirit and ideals.

To overcome this situation a new scheme has been started in the Denver office. A course of lectures on Service work is being given to the class of new employees, illustrated by numerous colored slides. The results have more than exceeded anticipations. The last lecture included a discussion of our filing scheme, with illustrated slides to associate the classification given in the filing scheme with the actual work in the field. The explanation of an "S-Planting" designation is much better understood if it is illustrated by a few slides showing how the planting work is handled in the field. The classification of "S-Scaling" correspondence can easily be made clearer by a few slides showing a Forest officer in the process of scaling a deck of logs. The principle may readily be adapted to almost any designation in the filing scheme. One of the girls remarked at the conclusion of the discussion that she had read the filing scheme the day previous and that the discussion had increased her understanding of it by fifty per cent. This expression seems to be a fair index of the value of the plan in other lines.

The schedule for the scheme is being worked out as the course progresses. The next discussion will be on the organization of the Service, and later lectures will include discussions of the work applying to each particular branch. Opportunity is given to ask questions freely and comment and criticisms are invited. It is too early to estimate in money value the merits of the scheme, but from present indications it promises to be well worth while. The Chief of Maintenance has handled all of the instruction work to date; other members may join the "faculty" later.

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## OUR GRAZING RECORD - A CURE FOR TRESPASS

By J. N. Langworthy, Shoshone

On the first page of the November 12 Service Bulletin is an article by Stanley F. Wilson, entitled, "Are We Proud of our Grazing Record?" Mr. Wilson takes a fall out of our trespass procedure. Shake! Mr. Wilson, I am with you.

The door of the Supervisor's office of the Shoshone National Forest just closed upon a trespasser. His is the last of a large number of cases instituted last March as the result of a round-up conducted among the snowdrifts of Sunlight Basin. This case has dragged along all this time. The folder is fat with correspondence. There seemingly will be no end to it. Already the cost to the Service is many times the amount claimed for damages.

I superintended the round-up referred to. I, who began working for the Service in 1906, am still buying chips in a game where the odds are all against me. You probably have surmised by this time that the trespasser and I failed to agree on a settlement. It is Friday - that may be the reason. But I know another.

Mr. Wilson cites the enormous cost incident to trespass, the unsatisfactory results, the effect of our silly procedure upon both the public and our own officers. We have a number of cases several years old which have so far resulted in nothing but correspondence. These trespassers were caught red-handed. They do not dispute the fact that their stock was in trespass. They simply refuse to pay. They are not permittees and it is impossible to collect damages from them.

Mr. Wilson diagnosed the case, but has he prescribed a remedy? He would cure these ills by the cutting of preferences and the revocation of permits. What good, may I ask, will that do? The trespasser cares not for the size of his permit. He can afford to pay damages now and then. If he is smart he will find it cheaper than grazing fees and then he can handle his stock to suit himself and turn out when and where he pleases. What good would come of moving the stock if it drifts back again on to the Forest range? No! Mr. Wilson, your remedy lacks something in that it will work only in some cases. What we need is something that will work every time.

Last spring there was quite a number of horses belonging to distant parties who held no permits, running on Forest range. We had a Ranger Station pasture handy and threw this stock into the pasture and notified the owners what they owed. In every case the damages were paid and the horses removed.

My cure for this trespass business is to impound the stock and in flagrant cases require the owner to pay a good round sum before he is allowed to remove it. This procedure may sound simple but it works when stock trespasses upon town property and it will work in the Forest.

Let us hear from some one else who thinks he has a cure. It is a serious case.

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## A BIT OF JAVA

By W. A. Dayton, Washington

Dr. Carl Hartley of the Office of Forest Pathology, Bureau of Plant Industry, gave an address before the Botanical Society of Washington Tuesday evening, December 4, on his recent trip to Java, referring particularly to agricultural and forestry aspects. Dr. Hartley indicated that, contrary to rather general opinion, there are numerous valuable softwoods in Java and in the tropics generally, some of the woods being among the lightest known to xylologists. There are about 1,200 species of trees in Java. The speaker stated that he was unable to find any indication of the presence of the chestnut-blight fungus (Endothia) in the island, though the indigenous flora is rich in chestnuts and chestnut allies.

One Javanese chestnut Dr. Hartley regards as superior to the American chestnut for timber and the nuts fully as palatable as those of its American congener. There are at least twenty-five species of oaks in Java, all with leaves of the lance-oblong type, so that the forester has to be systematic! Dr. Hartley pointed out (what was news to the writer but may be well known to many of the Service Bulletin's subscribers) that Java (and presumably the East Indies as well) is a sort of "melting pot" for oaks, chestnuts, chinquapins and nondescript hyphenates. There are chestnuts with tuberculate involucres, oaks with spiny burs, chestnuts with single "acorns" and one species with a poisonous nut. Mr. Skeels, of Foreign Seed and Plant Introduction, stated that one shipment of "chestnuts" was returned to Dr. Hartley with the categorical statement that they were "not chestnuts," although they later proved to be honest-to-goodness castaneas. With our bur oak and chinquapin of the East and tanbark oak and two golden chinquapins of California we have a fair series in our own country between oaks and chestnuts, but evidently in Java it is almost hopeless to separate the genera, and Dr. Hartley stated that several of the best systematists feel that oaks and chestnuts are really congeneric.

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## THE WINDY OLYMPIC

By Jno. D. Guthrie, D-6

On December 5 another high wind blew on the Olympic Forest. The storm zone this time, however, was quite modest, being only some 8 miles wide by 25 miles long. The storm of January 29, 1921, it will be remembered, cut a swath 90 miles long by 20 to 30 miles wide, and left some 5 billion feet of timber prone in its wake. The December 5 wind might almost be called a mere zephyr in comparison. Roads were blocked to some extent, a bridge or two was crushed beneath trees, and telephone lines in the Crescent Lake vicinity were badly wrecked.

Ranger Morgenroth after an examination of the area states that there were no 100% windthrown areas as in 1921, and estimates that 125,000,000 ft. B. M. would cover the recent damage, this about equally divided between National Forest and outside timber. The storm seemed to blow from Mt. Octopus though extremely high winds were reported as far south as Astoria at the mouth of the Columbia River. Its direction was northwest, roughly along the west side of Township 28 N., R. 12 W.

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## WASHINGTON NOTES

New Officers of the Society of American Foresters: The recent ballot for officers of the Society of American Foresters for the year 1924 resulted as follows: President, Walter Mulford, Berkeley, Calif.; Vice President, R. T. Fisher, Petersham, Mass.; Secretary, R. V. Reynolds, Washington, D. C.; Treasurer, F. W. Besley, Baltimore, Md.; Member of Executive Council 1924-1928, E. H. Frothingham, Asheville, N. C.

Other members of the Executive Council holding over are: B. P. Kirkland, Seattle, Wash., Raphael Zon, St. Paul, Minn., R. C. Bryant, New Haven, Conn., R. Y. Stuart, Harrisburg, Pa.--W.N.S.

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Sharpshooter Laurels for Reynolds: R. V. Reynolds has added another medal to his long line of marksmanship trophies. Reynolds won this new medal as a member of the 8-man rifle team which recently won for the District of Columbia the Caswell trophy for the State championship in a small-bore match at 50 and 100 yards. Twenty-five States were represented.

Reynolds is also winner of the gold Manhattan medal given for the long range small-bore championship of the Northeast. He was also a member of the small-bore Dewar team which successfully represented America against Great Britain in 1922.

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Boy, Page Mr. Volstead! A recent inquirer asks if the shrubbery, undergrowth, etc., on cut-over land has any "alcoholic value." Perhaps not directly, but many a forester has got intoxicated trying to figure its expectation value.

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"A people without children would face a hopeless future; a country without trees is almost as helpless; forests which are so used that they cannot renew themselves will soon vanish and with them all their benefits. A true forest is not merely a storehouse full of wood, but, as it were, a factory of wood, and at the same time a reservoir of water. When you help to preserve our forests or plant new ones you are acting the part of good citizens."--Theodore Roosevelt.

## FOREST PRODUCTS LABORATORY

Which Way Does Spiral Grain Run? In the Service Bulletin for October 22, E. K. comments on the direction of spiral grain in trees, saying that in yellow pine the spiral runs from left to right, while in white pine, white bark pine, and white fir the spiral runs in the reverse direction. Although I have no data on these species, I have made extended general observations on spiral grain, particularly in conifers in different parts of the country and have come to the conclusion that the right-handed spiral (from left to right going up the tree) is much more common than the left-handed spiral. When I tried to get photographs of left-hand spiralled trees, I was surprised at the difficulty in locating them, while plenty of right-handed spirals could be found.--A.K.

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Research In Forest Products and Fire Protection Linked in Forestry Program: Research in forest products and fire protection as features of a National Forest Policy received the largest vote of any cast for the eight

sections of a forestry program on which over 2,000 Chambers of Commerce voted. Apparently the committees of the various bodies are pretty certain that getting the most of what timber we have (through research) and the protection of the growing stand (through fire protection) are most needed features of our policy.

The two sections, and the vote on each, follow:

VII. The Committee recommends that Congress should increase the Federal appropriations available for protection of timber lands against fire. Votes in favor, 1,987½; votes opposed, 98½.

VIII. The Committee recommends that Congress should provide for enlargement of Federal research and experiment in forest products. Votes in favor, 1,908½; votes opposed, 164½.

All the other sections were also approved except No. V, which provided for the creation of a National Forest Council to give advice on forestry.

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## FOREST EXPERIMENT STATIONS

Lake States Station Presented with Key to University: The annual Christmas Assembly was held on the University Farm Campus December 12. During the evening Mr. Zon, as Director of the Lake States Forest Experiment Station, was presented by President Coffman with a huge key. President Coffman stated that this key would open all of the doors of the University except the door of the safety vault in the treasurer's office. He added that this didn't matter, though, since there wasn't any money there anyway, as any member of the faculty could testify. (And besides, Zon's reputation with jack pots is too well-known to take any foolish chances.--Editor.)

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Many Farms Have Windbreaks: A bulletin from Nebraska on farm homes indicates that three-fifths of all houses have windbreaks (1,140 farms in 10 localities studied). Over three-fourths in eastern Nebraska, and a sixth in the southwestern part of the State are so provided. In each region they are most common about the owners' homes, and more common about tenants' homes than about part owners! Cottonwood, boxelder, and soft maple trees are most generally planted, and better species though widely urged have not been used. This publication also urges more "windbreaks," more for dust screens along highways than for windbreaks proper.

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## DISTRICT 1 - NORTHERN DISTRICT

Differences in Degree if Not in Kind: A recent canvass of the District, made at the instance of the Forester to secure information for the Department Directory, discloses the fact that 56 employees hold degrees conferred by colleges and universities. One of these is held by a woman, a B. A. from Montana University. These include B. Sc. in Forestry, (the predominating degree), Master of Forestry, Civil Engineer, Bachelor of Philosophy, Bachelor of Science, plain, (and others trimmed in Agriculture), and Agricultural Economics and Botany), and one Doctor of Veterinary Medicine.

Not so bad - about 13 per cent of the total enrollment of the District with cognominal alphabetical appendages!

Lolo Leads in Sale by Estimate: The Lolo leads off with an advertised sale of 1900 M.-foot sale by estimate. The stumpage value of the timber will exceed $4,000. This is believed to be the largest sale by estimate yet made in District 1.

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## DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

Annual Grazing Reports: Action, including the preparation of letters, on Part One of Annual Grazing Reports for the District was completed on December 21. Most of the Forests have been taking advantage of the slack of cattle demands to reduce carrying capacity figures to more nearly what is considered the normal figure for the Forest. This can be done in practically all instances without interfering with established preferences. The majority of the Forests report a tendency to change from cattle to sheep during the present depression in the cattle industry and the favorable times for the sheep owners during the past three years. There is some speculation as to whether the sheep industry will continue as good as at present, but there is a feeling on the part of those who study the situation more or less intimately that we will have at least one more good year with sheep even if the tariff question should become a prominent issue in the next presidential campaign.

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Recent Timber Sales in D-2: A number of fairly large timber sales have recently been made in D-2. Three million feet of sawtimber, largely live jack pine, and 1,130 cords of material suitable for box board bolts or pulpwood have recently been sold on the Minnesota Forest at the following prices: $5.20 per M ft. b. m. for live jack pine sawtimber; $3.00 per M ft. b. m. for dead jack pine sawtimber; $10.20 per M ft. b. m. for dead Norway pine sawtimber; $1.05 per cord for box wood bolts or pulpwood.

A sale of 6,500,000 feet of western yellow pine in the Mud Springs unit on the Montezuma has recently been made at $3.10 per M ft. b. m. A sale of about 2,200,000 feet sawlogs and 12.000 standard and narrow gauge hewed railroad ties, consisting of western yellow pine, Douglas fir, lodgepole pine, limber pine and Engelmann spruce on the Luders Creek of the Cochetopa, prices being $2.25 for green sawtimber; $.15 for standard gauge hewed railroad ties; and $.07 for narrow gauge hewed railroad ties. This is a comparatively inaccessible unit, approximately 45 miles from the railroad.

A sale on the Sanitarium unit on the Harney Forest containing approximately 4,500,000 feet of western yellow pine sawtimber was recently made at $6.35 per M. Ft.1b. m., the highest price at which timber has been sold in the Black Hills region at least in recent years.

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## DISTRICT 3 - SOUTHWESTERN DISTRICT

Lumber Produced in Southwest Widely Distributed: Based on distribution reports obtained from the larger mills of the District in 1922, it is estimated that 43 per cent of the lumber manufactured in Arizona and New Mexico is used in the two States and the balance of the output is distributed approximately as follows: California, 3%; Colorado, 25%; Illinois, Indiana, Iowa, Kansas, 18%; Missouri, 3%; Ohio, 1%; Oklahoma, 1.5%; Texas, 2%; Foreign Export (Mexico principally), 1.5%; the remainder of the cut going to Louisiana, Utah, Wisconsin, Maine and New Jersey.

It is interesting to note that the product of the western yellow pine mills reaches such points as Maine, the original white pine State, and Louisiana, the heart of the southern yellow pine belt. This may be accounted for by the depleted supply of white pine in the New England States (high grade western yellow pine readily replaces white pine in the market) and the high esteem in which western yellow pine is held as a shop and box lumber.

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More Timber Sold: A contract covering the sale of 2,278 M feet of lumber to the Southwest Lumber Company on the Lincoln National Forest has been approved. The timber, consisting of Douglas fir, Mexican white pine, western yellow pine and Engelmann spruce, was sold for $2.15 per M., and the white fir at $1.25 per M feet. This timber will be logged by the Southwest Lumber Company, together with their own holdings to their Alamogordo mill, which has recently been enlarged. The contract allows the company until December 1, 1925, to remove the timber.

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## DISTRICT 5 - CALIFORNIA DISTRICT

First as Usual: The Forest Service has occasion to be proud of the fact that the first report of Claire K. Vance, air mail pilot who was lost in the High Sierras Friday night, November 30, was received from one of its officers, Executive Assistant Gracey of the Tahoe. Vance left San Francisco Friday afternoon on his regular run to Reno, Nevada, but after completing three-fourths of the trip, ran into a heavy wind and snowstorm in the Sierras and was forced to make an emergency landing in a manzanita brush field near the Last Chance mine not far from Michigan Bluff. The mail pilot was uninjured, but his plane was wrecked.

When the pilot was first reported missing the Air Mail Service appealed to the Forest Service to help find him. A wire to the Tahoe and Eldorado started the field machinery going. Supervisor Smith and Gracey after a telephone conference decided, from the meager information available, that the plane must have come to earth near Michigan Bluff. Gracey, Ranger Hurst and Mr. Walling then started out on a still hunt; found the missing aviator coming in with the mail on pack mules from Last Chance, and were the first to get word to the Air Mail Service.

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Big Work on the Modoc: A report on the results of a survey of the insect infestation in the western part of the Modoc Forest, showing that 38,000 trees (worth $112,000) were killed during the past year, has recently been received from F. P. Keen, Assistant Entomologist.

A total area of 432,000 acres was examined, 41 per cent National Forest land and 59 per cent private land. The private land is largely owned by the Pickering Land and Timber Company and the Red River Lumber Company, who shared the expense of the survey with the United States. The question of control to stem the epidemic is now being considered.--T.D.W.

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## DISTRICT 6 - NORTH PACIFIC DISTRICT

Increase of Special Use: Twenty-nine new tent cottages, with shower baths and many other conveniences, were erected by the Big Four Hotel management this summer on the Snoqualmie Forest. These improvements are located on property leased from the Government. In all 4,000 people were guests at the Big Four Inn.--H.S.T.

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When Red Enemy Came: Patrons of small theaters in Whatcom County were circularized from the Supervisor's office when the "Red Enemy" was shown. An announcement was mimeographed and mailed along with copy of recreation folder. The proprietors of these theaters were glad to get the film and are now waiting for the "Elk to Come Down" in January.--R.L.C.

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## ELEGY WRITTEN IN A TOURIST CAMPING GROUND

The Klaxon sounds the knell of parting day,
Some late arrivals through the dust clouds creep,
And three hours after we have hit the hay
The noise calms down, so we can get to sleep.

Save where, from yonder pennant-clad sedan
The radio set emits its raucous squeal,
And underneath a near-by light, a man
Pounds until daylight on a busted wheel.

Beneath those tattered tops, those patent tents,
Where falls the dust into each sun-burned pore,
Each on his folding bed of slight expense
The rude explorers of the highway snore.

Let not ambition mock their creaky cars,
Their khaki clothes, of vintages obscure;
Now grandeur view, with hauteur like a czar's,
The short and simple flivvers of the poor.

The boats of shiny paint, the pomp of power
And all that charms the motoristic fop,
Await alike the inevitable hour--
The paths of touring lead but to the shop.

Can stream-line hoods or silver-plated hubs
Back to its mansion call the missing spark?
Can plush upholstery foil the clumsy dubs
Who bang into your fenders in the dark?

Full many a boob of purest ray serene
Succumbs each summer to the touring itch;
Full many a car is doomed to blush unseen
And waste its sweetness in a western ditch.

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## DISTRICT 7 - EASTERN DISTRICT

Fruit-Jar Religion, or Why Mac Goes to Sunday School: R. H. McMahan, patrolman on Wesser patrol district, Nantahala Forest, has to a large extent solved the fire problem in his district and in a unique way. Moonshining is the leading and practically the only profession in his section. As long as or rather when the moonshiners are sober they are

law-abiding (?), quiet citizens, but let them absorb a quantity of their own produce, and something busts loose, usually the well-known H---.

In checking over his fire record Mac discovered the fact that the majority of his fires had occurred on Sunday afternoon, along about the end of Sunday school time. So Mac, being wise to the moonshiners' way of celebrating the Sabbath, gets himself elected Superintendent of his Sunday school. From his vantage point while leading the singing Mac spots the drunkest bunch of worshipers (they're all, according to Mac, more or less so, but their religious fervor is directly proportional to their degree of inebriety) and makes it a point to be with that gang on their homeward journey from worship. Mac's fire record shows a decided improvement since he got religion. Revival time is coming and Mac's wondering how many places he can be at once.--T.W.A.

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TO BE OR NOT TO BE

What's all this talk I hear you fellows speil,
'Bout "silviculture" and "the future stands?"
It seems to me 'twould be a squarer deal
To let the farmer have the logged-off lands.
Old-timer, there's another side to that.
Whether we should have farms or forests here,
Raise crops or trees, have homes or industries.
Is not by any means so crystal clear
As you might think. To clear these rugged tracts
Of massive stumps would cost you, I might say,
A price per acre that I feel quite sure
No farmer in the world would want to pay.
And, then, suppose the land's all nicely cleared
And all you have to do is break it up
And sow the seed. You're sure you'd get a crop?
You might - or you might find you'd bought a pup!
But where we know that it will grow fine trees
And keep on growing them while Time endures.
Well, there you are! Now, should we play a cinch,
Or bet upon a gambler's chance like yours?--B.C.Forest Service.

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# Service Bulletin

U. S. FOREST SERVICE

(Contents Confidential)

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## ORDERS

By L. F. Kneipp, Washington

There was a time in the history of the Service when orders were given. For example, take the old "Service Orders," especially that epoch-making pronouncement "Service Order Number Twelve." But at the last Service meeting emphasis was laid upon the fact that for many years the terms "you shall" or "you will" have been taboo. In their stead are forms less offensive to delicate sensibilities, e. g., "It is suggested," or "would it not be well to --?" etc., etc., terms oozing the idea of equality of judgment and authority between orderer and orderee; charged with the thought that the recipient is free to adopt or reject the plan or procedure proposed. Many a luckless wight, surcharged with the urge for self-expression, stirred by resentment against any curb upon his creative effort, has exercised this apparent freedom of thought and action, has ignored or rejected the "suggestion" or has decided it would "not be well", and has suffered the visitation of Old Lady Calamity in consequence thereof. Many a recommendation for separation or acceptance of resignation is supported by a long list of sins of omission or commission, based on disregard of specific or implied responsibilities.

The worst feature of such a system is its unfairness to the subordinate. It does not clearly and unequivocally fix on the superior full responsibility for the action taken. If the thing is not done, the superior has the alibi that having ordered it to be done he discharged his part of the duty. If the thing is done and turns out badly, the superior is safeguarded by the fact that his innocent suggestion or query was by no means final but designed merely to secure the views of the subordinate. He wins either way. The principal does not define nor fix the full scope and extent of the subordinate's responsibility and accountability with the clear-cut certainty most conducive to peace of mind and worth while accomplishment. In ancient times kings, instead of telling the Captain of the Royal Guard to take an obstreperous subject out and insert a sword under his fifth rib, would assume an attitude of despair and exclaim "Will no one relieve me of this monster!" and then draw and quarter the simple-minded courtier who took the tip. To some degree, any plan which substitutes suggestions for orders offers the same possibilities.

It would be interesting to know just how the men in the Forest Service feel about this matter of "orders." Are the majority of them inherently opposed to explicit statements of their duties in clear-cut and unmistakable terms, or would they, in fact, welcome a direct blunt fixation of responsibilities which, while not quite so deferential as the present form, unequivocably fixes the relation between superior and subordinate? Do they believe in the axiom that one who would learn to give orders must learn to take them? Is our present theory based on a true analysis of the thought of the rank and file in the Service, or is it, in fact, a source of amusement to them and a source of weakness to the organization?

## FOREST EDUCATION

By Charles H. Shinn, District 5

Dozens of young forest workers full of enthusiasm, spilling over with energy, are dealing every day with all sorts of fellow citizens, and some of the results get into print. People without well controlled but fully alert imaginations are apt to think of this as "Publicity," or even as "Propaganda." But if what forest men say in print is to have any value at all it must be made intensely human, full of good will for "the other fellow," attractive to him, and, in a word, real education of the sort that wins both respect and love.

The writing of an article, this old newspaper-man long ago discovered, is exactly like writing a letter to a man you have never seen. Here are the all-important rules: Think of him, not of yourself; make the very first sentence so interesting to him, and so vividly new that he will sit up in his chair, smile a little at your letter - and read with delight the first paragraph; spend, therefore, as much thought and good-fellowship over that first paragraph as you put on all the rest of your letter. Do these things in the largest, most modern international spirit, leading up to a big word for Forestry - and your reader "comes into camp."

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## ANOTHER STATE HEARD FROM ON THE NINE-FOOT ROADS

By F. P. Cunningham, Sequoia

I say "Amen" to H. N. Wheeler's item in the Service Bulletin of October 1. He condemns the nine-foot scar along a canyon wall. We advertise it in the local papers as a Forest Service road and tell about the nice grade, the scenic wonders it opens up and excite the public into driving over it.

I recently heard an elderly lady comment on one of our new roads before a crowd in a hotel lobby. She said she was sure there must be some nice scenery, the grade was fine, and the roadbed smooth. But she did not see the scenery and she could not enjoy the good grade because, she said, she expected the car to roll over the bank at any minute and it made her sick to look either up or down the hill, so she covered her eyes part of the time and the balance of the time looked at the bottom of the car. "No one will ever get me to ride over that road again," she said. Yet that road was built partly from 10% funds, and entirely from funds put up by the public. One week after it was opened a delegation asked to have a control put on so traffic could go one way only and no vehicles meet. Praise for the grade, praise for the smooth surface, praise for all of it, but always the question: "Why did you not build it wide enough for safe travel?"

I expect the county to accept this road and I fully expect them to widen it to at least a 12-foot road. The public is going to pay for it, and it could have been built 12 feet wide in the first place cheaper than it could be built narrow first and then widened. I contend this is a waste of public funds.

We know drainage must be to the upper bank and by actual experience we find that even though we drain only 200 to 300 feet of road in many places a ditch washes out so deep that if a wheel gets into it one is in trouble. Who can drive a machine on a slippery nine-foot road and not slip around more than the leeway provided? In theory a nine-foot road sound wide enough, but in practice it is a farce. We often find it necessary in mountain driving to back up in order to find passing places. How many drivers can back a car on a slick nine-foot road? Not one out of ten.--

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## OLD FORESTS AND NEW

By S. B. Show, D-5

The lumberman or forester who speaks with awe of the yields of lumber in the wonderful virgin forests of the California pine region, would certainly open his eyes if he could participate in that little known pastime called the yield study. Here are some of the high spots in the measurement of over 300 plots of second growth made in the past few years.

On an excellent site a stand of sugar pine and white fir 51 years old, with dominant trees as large as 30 inches in diameter and 115 feet high, and with a yield of 75 M per acre, exceeded the best of the surrounding virgin forest.

A stand of pure western yellow pine 52 years old with dominant trees up to 34 inches in diameter and 120 feet high yielded 70 M per acre. Height growth of over 4 feet a year took place between 30 and 40 years of age.

A stand of yellow pine on a medium site 34 years old, but averaging over 17 M per acre, equalled the average of thousands of acres of virgin forest in the same region.

The truth is that our virgin forests, however splendid and fully stocked they may appear, represent but a fractional part of the productive capacity of the soil on which they grow. Centuries of repeated fires, with loss of trees, decay and lowering of soil fertility, have made the virgin forest at, say 200 years old, no more or even less productive than forests untouched by fires at 50 years.

Forests originating since the Civil War on land cut over by the "forty-niners," have excelled other forests that were already mature half a century ago.

Is it unreasonable to suppose that profitable forestry will be practiced in a region where the better lands can produce at least a thousand board feet an acre a year?

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## G. L. O. Cooperative Survey on the Jefferson

By J. B. Yule, District 1

During the past field season a cooperative topographic survey was made on the Jefferson by members of the Forest Service and G.L.O. So far as this District is concerned, the survey is unique, inasmuch as it is the first and only cooperative activity of this nature that the Service has ever performed in conjunction with the G.L.O. And, although last season's activities were largely of an experimental and development nature, nearly three townships or about 65,000 acres were covered and a good topographic map obtained. The map, which was made in the field on a scale of 2" = 1 mile, is adequate to meet all Service needs.

G.L.O. section lines comprised the base from which the entire topographic map was made. The Forest Service "topographic abney" and "Topographic tape" were substituted for the standard G.L.O. degree abney and 2 chain tape in order to obtain vertical closures around sections of a sufficiently high precision to serve as control for a standard topographic map.

The G.L.O. survey has standard instructions governing horizontal closures of sections, and on 4 townships surveyed upon which the topographic abney and tape were used, an average vertical closing error of 6 ft. per mile, or 24 ft. per section, was obtained. This closure falls well within topographic limits and amply serves as vertical control for a standard topographic map.

G.L.O. methods were developed to the stage where sufficient data could be obtained from G.L.O. notes to fill in contours culture and topographic features on section lines.

Topography in the interior of sections was filled in by traverse along principal ridges and streams by the staff compass abney and pacing method supplemented by abney "side shots" and compass triangulation.

By the above method topography was worked on one township from Forest Service camps and cost about 2¢ per acre. On the remaining area topography was supplied by topographers working from G.L.O. camps. Wages, subsistence, and training of topographers was borne by the Forest Service and the map obtained cost about 1¢ per acre.

It, therefore, cost the Service about twice as much per acre to maintain its own camps as to have the work done in G.L.O camps. The economic solution is therefore to have the work handled through the G.L.O. camps in the future.

The methods developed last summer possessed wonderful possibilities from a topcgraphic standpoint and may be the solution for obtaining good topographic maps, in the near future, on many of our Forests where this type of map is needed and the request for this method of survey is justified.

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## NINE-FOOT ROAD CONTROVERSY EXPLAINED (?)

By Joe Ryan, Colorado

Several articles have recently appeared in the Service Bulletin concerning nine-foot roads. H. N. Wheeler of D-2 claims that they aren't safe, that a driver must come to a full stop if he desires to sneeze without going over for the count, that they are poor advertising, and that the people don't want 'em. Whereupon Mr. Leopold of D-3 comes forth and seemingly jumps all over him, saying they aren't dangerous, that we are leading the public anyway, and that the public does like 'em.

Now, this might be misleading and look to some like a scrap between members of the family, but since I have meandered about both States I feel safe with the explanation that this is not a difference of opinion, but rather a difference of conditions where observations were made; and while it is not my nature to "agree with nobody, no time," I must give in at this time.

Mr. Wheeler comes from Colorado where they have wide roads, tall canyons and deep hills, high trees and swift streams, and lots of visitors with a limited amount of time who must hurry if they see it all; and he means Colorado roads when he says they are dangerous And I agree with him, absolutely, in Colorado.

But Mr. Leopold hails from New Mexico, where the roads are narrow, the hills smaller and the canyons shallow, where fewer people are in a hurry, and where fewer streamlets are around to wash 'em out. He refers to New Mexico when he says the roads are safe and the people do like 'em. And I agree with him, absolutely, in New Mexico.

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Reestablishing the French Chestnut Forests: (Extract from Le Temps, Paris, November 30, 1923, sent in by Commercial Attache Chester Lloyd Jones.)

The ravages which have been made in the French chestnut forests by the so-called ink disease continue to be of a most serious character. This malady, which appeared more than fifteen years ago, has been fought up to the present time almost exclusively by private interests which have not been able to make much headway against the disease. The Government has recently made an appropriation to experiment with the introduction of Chinese and Japanese chestnuts which resist the ink disease satisfactorily. There are now two nurseries devoted to the raising of plants of these varieties and it is hoped to furnish them to the public at a cost of fifty centimes per plant. The results thus far obtained seem to indicate the successful acclimatization of the Japanese and Chinese trees, and an extension of Government interest in this means of reestablishing the chestnut forests is counted upon.

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The "Revue des Eaux et Forêts" - the French technical forestry journal - prints in its November issue an eight page review of Zon and Sparhawk's well-known "pièce de résistance." How far our candles throw their beams!

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## FOREST PRODUCTS LABORATORY

Laboratory Has International Reputation: "The Madison Laboratory has much more of a reputation in Europe and Asia than we ever suspect at home," says Mr. Carroll V. Sweet, who has lately returned to the Forest Products Laboratory at Madison, whence, three years ago, he was taken by the British Imperial Forest Service to investigate the kiln drying of native Indian woods. "My association with it gave me everywhere a standing which personally would not have been mine. Madison experiments are watched eagerly by foresters all over the world."

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New Course to be Given at Laboratory: "Wood as a Building Material" is the tentative name of a new short course of instruction which will be laurched by the Laboratory this winter. In this course, which is intended primarily for architects and building engineers, the Laboratory will present the results of test data and other information of value in building construction which now are not being used sufficiently. The proper application of this knowledge would lead to the construction of safer, better, and lower cost buildings. So far the Laboratory has had relatively little contact with the building trades, and it is hoped that courses of this kind will effect closer contact. One course, a week long, will be given this fiscal year. The exact date has not yet been determined.

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Custer Seed Extractory Burned: What might be termed the nth degree of hard luck is the recent experience of Supervisor Conner of the Harney Forest in the destruction of the Custer seed extractory, together with the entire equipment and 2,500 pounds of seed which had just been extracted, on the day the job would have been completed. On the night of December 11 the last charge of two carloads of yellow pine cones was run into the kiln. A high wind came up about 2 A.M. and at 3 o'clock the man in charge of the extractory discovered a fire in the kiln. He was unable to put it out with the fire extinguisher and the building, which was as dry as tinder after a month's continuous run, was soon a mass of flames. The highly inflammable resinous cones in the kiln acted as so much gunpowder to the flames, and when the volunteer fire department of Custer arrived the fire was beyond control. It was only by a big effort that the adjacent local light plant was saved from destruction. The fire was probably caused by overheating the kiln.

The moral of this fire is to erect fireproof extractories, as this is the second extractory which District 2 has lost during the past five years. The kiln should be made of metal or other fireproof material. The floor between the furnace room and the kiln should be made of reinforced concrete. Unfortunately, a building of this type cannot be erected with the existing statutory limitation of $1,000 on buildings.

The next point learned is that seed should be removed from an extractory as soon as it is extracted so that in case of a fire it will not be destroyed. Cone bins should also be placed at a safe distance from an extractory rather than included with the building. Fortunately, sufficient yellow pine seed was collected on the Cochetopa and Pike Forests to care for next year's needs in D-2 nurseries.

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Timber Census of Nebraska: Last year, in preparing an estimate of the amount of timberland in Nebraska for the Timber Crop Report, there was a great variance of opinion as to the extent of forest lands in that State. It is known that a large part of the natural forests has been cut in recent years, and that very little planting has been done during the past ten years compared to the amounts in time past when Nebraska was noted for its tree planting to such an extent that the legislature passed a resolution calling it the "Tree Planter State." In order to determine the facts a questionnaire was recently sent out to County Assessors in which information is being requested on the area of wild timberland, the area of planted timberland, and information as to whether or not there is less wild and planted timber than ten years ago. Professor R. J. Pool of the Botany Department of the University of Nebraska, who is acting as State Forester, is cooperating with the Forest Service in securing this information.

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Morton Nursery will be Closed: After several years efforts to solve the soil problem at the Morton Nursery on the Niobrara Division of the Nebraska Forest, it was decided that the situation was too difficult to attempt further remedial measures, and the nursery will be closed as soon as the present stock is removed.

This nursery was opened in 1915, and several years afterward it became evident that the soil was not just right for raising trees. The Bureau of Soils made analyses several times and reported that there was a small amount of alkali, but not sufficient to be inimical to growth. However, the trouble continued, trees yellowed and roots rotted off, and it was finally decided that the conclusions of the Bureau of Soils had been based on the soil requirements of agricultural crops and not on those of forest trees.

In the recent examination Mr. Bates made use of a very simple process called the Soiltex method, devised by Professor Spurway of the Michigan Agricultural College. This consists of a solution which, upon being dropped on a small quantity of soil placed on a waxed paper, causes certain color reactions. This is referred to a color chart, which is a part of the outfit, to indicate whether the soil is acid, neutral or alkaline. Probably the soil could be made neutral by acid treatment, but the Niobrara River water, which is used for irrigation, is also alkaline so that there would be a continual problem to keep the soil neutral. The Soiltex outfit should be of great assistance to Forest officers in determining whether or not soils are capable of supporting tree growth.

For the present trees will be raised at the Bessey Nursery, located at Halsey, for planting on the Niobrara Division, and in case the operation there is largely increased, it is proposed to raise the seedlings at Halsey and transplant them at the Lookout Ranger Station on the Niobrara Division.

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## DISTRICT 3 - SOUTHWESTERN DISTRICT

Manzano Loses Indian Land: Notice has been received that the new plats of survey of the Isleta Pueblo Grant on the Manzano will be officially filed on December 1. The new boundary is based on the original grant to the backbone of the mountains and supersedes the old monuments. It reduces the net area of the Manzano by about 21,000 acres and splits the northern division into two units, but it is hoped does not take the one tree for which the Manzano is famous.

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Ft. Bayard Arboretum: The arboretum of the Ft. Bayard Nursery was recently examined by Mr. Pearson, who reports that while the severe drouth of 1921-1922 has left its imprint, most of the trees are doing very well. Western yellow pine, pinon and the big tree (Sequoia gigantea) have died in considerable extent but practically no losses have been suffered by the other species. Only one specimen of the big tree remains, the others having died during the drouth. This one tree was located in a very favorable site and some trees in its vicinity were cut to encourage its growth. The Arizona cypress shows its superiority in this planting. Some planted about 1916 are from 9 to 15 feet tall in good condition and are bearing seed.

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## DISTRICT 4 - INTERMOUNTAIN DISTRICT

The District 4 Drainage Map: We are now using in a limited way in District 4 a type of map that is rather novel. However, it is proving quite popular from all points of view because it makes a good and a fairly cheap map.

In making this the surveying crew carried equipment consisting of a standard U.S.G.S. alidade, and 18"x24" plane table for sketching, and for traversing, a 15"x15" traverse board, open sight alidade and 5 chain steel tape. For extending secondary controls, a specially constructed transit was used. The surveys were initiated from established U.S.G.S. triangulation stations and bench marks. In every unsurveyed township, at least three points were perpetuated well enough so that at any future time special surveys can be made from them. At these points, bronze tablets similar to those used by the U.S.G.S. have been set.

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## DISTRICT 6 - NORTH PACIFIC DISTRICT

New Oregon Law Effective: The value of the new Oregon state law, which provides that each side of a logging operation maintain a box containing fire fighting tools at the rollway and that each donkey engine be provided with 100 feet of hose, is illustrated in the case of the Western Lumber and Export Company which is at present operating on private land along the Forest boundary at Rujada. Two fires this season were effectively handled by this equipment. One of these fires which, if it had gotten away, would have burned considerable felled timber and seriously endangered several donkeys, was controlled in about fifteen minutes by the logging crew. The superintendent of the company frankly admits that the tool box was all that saved them. Both fires occurred on the edge of the 3,000-acre logged-over area of the Forest Service, which at present bears a heavy stand of natural reproduction.--W.H.L.

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Oregon Road Map Goes Big: This has been a 10-pointer! The District Library for about a week resembled a bargain sale counter! An average of 150 people per day for almost a week called in person, besides many phone calls and hundreds of letters. Local papers gave good publicity. An edition of 50,000 was printed, and 25,000 copies were distributed in less than a month. It is probable that a revised edition will be requested for use next spring. The Portland Chamber of Commerce said they could use 100,000. Several large requests were received from the State of Washington.

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He's Just Wild About It: A recent correspondent says: "Forest Supervisor, Dear Sir: I feel the call of the wild. In fact, I have always been about half wild to live out in the forests but have always curbed these desires and tried to do something else. However, I recently made a trip into the Imnaha River country where I stayed for about two weeks. Now I am wilder than ever."

Our correspondent wants to know how to qualify as a ranger. Anybody need a wild ranger?

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Undaunted by Fire or Water: Rangers in the Cowlitz district say Bob McNee, the State fire patrolman, never finds anything to stop him on the way to a fire. Last September a farmer's fire escaped from a slashing across the Cowlitz River. If left unchecked, it would have threatened the National Forest. Bob arrived at the bank; the swift and icy glacial Cowlitz was between him and the fire. Bob kept on going and, disregarding the temperature of the water, swam across, got a boat on the opposite side, came back for his tools, recrossed, and put the fire out. We like the kind of cooperation we get from men who fear neither fire nor water.--G.E.G.

## THE PULP AND PAPER INDUSTRY IS SAVED

Sassafras wood has been used successfully for making newspapers. This predicts a great future for the paper industry, in consideration of the growing scarcity of pulp woods.--Clipped by R.Z.

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# Service Bulletin

U. S. FOREST SERVICE

(Contents Confidential)

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## D-2's FOREST PARK MEMORIAL

By Fred R. Johnson, Denver

In view of the timely interest aroused by Mr. Sherman's article "In Memoriam" and Mr. Guthrie's article "Let's Not Become Forgetters" in recent numbers of the Service Bulletin, it may be of interest to mention what D-2 has done and is doing to commemorate the memory of departed members of the Forest Service.

In 1919 at the suggestion of Mr. Morrell and Mr. Bates, who had a number of large Douglas fir and Engelmann spruce at the Fremont Experiment Station, trees were sent to most of the Ranger Stations for planting in memory of Forest officers who had died while in military service. It became apparent during the next two years that this would not make a very satisfactory memorial because many of the trees were uncared for through long absences of rangers from their stations. Lack of irrigation facilities and improper location caused the death of many of the trees.

It was later suggested that a memorial grove be planted where the trees could be properly cared for, and that this grove might also include trees for every Forest officer who had died since the organization of the District, including those in military service, those who died with their boots on, or those who died in bed. Forest Planting Assistant Schrader of the Monument Nursery and Ranger Robinson of the Fremont Experiment Station dug up and prepared for planting a number of wild blue spruce seedlings from 3 to 4 feet in height. On May 30, 1921, these trees were planted by a bunch of Forest officers and their wives who went to the Monument Nursery for the occasion. A total of 30 trees were planted on that date.

On May 30, 1923, two additional trees were planted, one of them in memory of former Ranger Smelser of the Pike who had assisted in planting the original bunch.

The tract where the trees were planted had been cultivated and the soil was too heavy to be suitable for nursery purposes, but it was well adapted to growing spruce or fir trees. It is planned to plant trees on memorial day as occasion demands for those who have departed during the year, and eventually some annual or biennial service may be held at the Monument Nursery to commemorate the occasion. Plans are now being made to appropriately mark the grove. A section of a large log will have one face cut off which will be varnished and polished, and to which individual metal plates will be attached with the names of the departed officers, in the order in which the trees were planted in the grove. The interest shown in this planting is evidenced by the visit which the widow of a former District Engineer, who lives some distance away, made this past summer when she drove to the nursery to see the tree which was planted in memory of her husband.

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## NEW CONSERVATION ASSOCIATION ORGANIZED IN SOUTHERN CALIFORNIA

By Paul G. Redington, D-2

There is probably no public group in the United States more vitally interested in forestry and fire protection in their relation to water conservation than that made up of the millions of people who dwell in the populous cities south of the Tehachapi in California. Water is the element which has brought to southern California, in large measure, the prosperity which exists there, principally through its use for irrigation of the fertile agricultural lands which produce annually many million dollars worth of citrus fruits, walnuts, grains, cantaloupes, etc. The very intensive agriculture practiced in this region and the great need for adequate domestic water supplies have caused these people to do a good many things not done elsewhere in irrigated regions to conserve and safeguard the water which comes in large measure from the streams heading within the National Forests. A whole chapter could be written on the water-spreading methods used or the flood control projects constructed; but that is another story. The fact remains that a wholesome respect has been established in the minds of these people for the watershed cover of the mountain slopes, and with the increasing demand for water there comes an insistent urge that the forest agencies go much further than was originally contemplated in preventing damage to the watershed cover. This urge has in the past few years shown itself sporadically and in different forms from all parts of southern California. Most every organization which has interested itself in this matter has believed that it had the proper remedy to prevent disastrous fires.

It became necessary this past year to make an attempt to coordinate the various demands being made on the forest protection agencies of the South in order to eliminate duplication of effort, confliction of viewpoint and local acrimonies, and after three months' work there has been formed an organization now known as the Southern California Conservation Association. This association is composed of representatives from the American Reforestation Association, Angeles Forest Protective Association, Associated Chambers of Commerce of San Gabriel Valley, Automobile Club of Southern California, Boy Scouts of America, California Fruit Growers' Exchange, Hollywood Hills Association, Joint Chambers of Commerce of San Fernando Valley, Los Angeles Chamber of Commerce, Los Angeles County Farm Bureau, Los Angeles Realty Board, Pasadena Chamber of Commerce, Pomona Protective Association, San Gabriel Valley Water Users Association, Sierra Club, Tri-County Reforestation Committee, Water Consumers' Association of Riverside, and Western Rangers.

The governing agency is an executive committee consisting of the President of and Chairmen of the standing committees of the association. Committees cover the following subjects: reforestation, flood control, water conservation, fire protection, laws and legislation, education and publicity, finance, recreation and forest use. The total membership of the organizations represented in the association numbers in the neighborhood of 100,000. The association has asked representatives of the Forest Service, State Forester, County Forester of Los Angeles, the Chief Engineer of the Los Angeles Flood Control Projects and others to act in the capacity of an advisory council to the association, and it seems as if the way is now paved to secure coordinated progress in those many interrelated problems which the association has been organized to handle.

In addition to this association, an organization has been formed in many of the towns adjacent to the Angeles Forest which has for its purpose the supplying of trained men for assistance in preventing and fighting fires. The men selected are to be given training in fire work; they are to be made part of the emergency fire fighting forces of southern California. One of our great problems in southern California has always been to obtain good crew leaders, and through the development of this organization the problem is in a fair way to be solved.

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## IMPROVEMENT TIMBER CUTTING IN PROGRESS ON CLOQUET FOREST

By A. E. Wackerman, Lake States Experiment Station

Dead and defective timber can be removed from the forest at a profit when reasonably accessible to a market. This is being demonstrated by the Cloquet Forest Experiment Station of the University of Minnesota.

About $400 will be realized by the station this winter through the sale of this dead and defective timber from a section of the station forest. The timber is being cut under contract by John Castron, a local resident of Cloquet who, under the terms of the contract, is to remove all dead timber and cut only such living trees as have been marked for removal by the station foresters.

Other specifications in the timber contract provide that brush shall be piled and disposed of satisfactorily; that young trees and other timber not marked for cutting shall not be unnecessarily injured in logging; that stumps shall not be cut higher than 12 inches; that each tree shall be fully utilized; and that great care shall be taken against the spread of fire.

The timber marked for cutting includes green timber which is defective or interfering with the growth of more valuable species, dead standing timber, and wind-thrown trees. The species being removed are mostly jack pine and tamarack and they are being cut into ties, boxboard bolts, pulpwood, and firewood.

The immediate removal of this material gives an income which would be lost if the dead and defective trees were to be allowed to rot. This improvement cutting also greatly benefits the remaining trees by allowing them more growing room which increases their rate of growth remarkably.

Mr. John Stillwell, Station Foreman, will perdonally supervise the sale and measure all products removed as a basis for payment.

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## FOREST PLANTING ON SOUTHERN FARMS

By W. R. Mattoon, Washington

Interest in reforesting worn-out or idle farm lands is growing rapidly in the South, particularly in South Carolina and Georgia. Such a thing would have been unthinkable a few years ago when old field pines were popularly regarded as something to be fought - cut, deadened or burned up.

Several factors have brought about this radical change in the thinking of the people. Above all others is the rapidly increasing value of timber to the point where old field or sap pine now commands high prices. Large areas of idle land have resulted from the ravages of the boll weevil. The modern intensive farming program lays stress upon a high state of cultivation, which nearly always means a reduction in the area worked. Thus much land is being thrown out of cultivation. The portable sawmills are making heavy inroads into the local supplies of timber, and people see a timber shortage staring them in the face. Fifteen to forty years ago, when large seed-bearing trees were abundant, abandoned fields came up thickly set with pines. What is the case to-day? Almost every original forest pine has been cut and the sawmills are now taking trees down to 8 inches in diameter. This leaves none of seed-bearing age. As a result, the abandoned fields are usually becoming very irregularly and very poorly stocked with young pines, which are now often referred to as "bush" pines.

A crop of pines on worn-out, idle, sandy, or flat lands will net the owner from $2 to $5 an acre yearly in a period of 15 to 30 years. This appeals to thinking landowners as a good form of investment, especially when their attention is called to the fact that a crop of pines involves no labor troubles, and it is protecting the soil from washing away and at the same time increasing its fertility.

The Forest Service, in cooperation with the State Colleges of Agriculture of South Carolina and Georgia, has recently assisted the county agents in seven counties in planting 5,000 slash pines in 20 demonstrations on farms of interested owners. Now seems to be the psychological time for the foresters to give help to the farmers. Large numbers of applications are being received by the Forest Service for information on sources of pine seed and small trees, and also methods of planting and growing pines. Many of these farmer applicants state that they wish to reforest several hundred acres, and in one case as many as 1,000 acres.

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## WHAT IS FOREST LITTER WORTH?

By E. N. Munns, Washington

We have talked a lot as to the value of the litter in a forest and its influence on the rate of growth of the trees in the stands. Some studies have been made of the effect of fire on the soil and its mineral content, but State Forester Besley of Maryland has just collected some information on the effect of the litter on the rate of growth that probably is duplicated elsewhere though we do not have the definite figures.

In Maryland, the pine straw is gathered more or less regularly for mulching in the truck gardens during the summer. One farmer has been taking the litter regularly from one patch of loblolly pine while from another he has taken nothing. As the two areas are adjacent there is but little difference in the growing conditions. On both plots the stand had the same number of trees at 55 years of age and approximately of the same diameter. The heights of the stands differed, the raked plot being 68 feet while the unraked was 78. This difference in height was responsible for a difference in yield of 800 cubic feet, or 6,200 feet of lumber, which at present market prices is worth about $62. Annual burnings, it is known, slow down a tree's growth, but it has not been known whether this was the effect of soil deterioration or of the fire on the tree itself. It probably is both, but it is demonstrated here that soil is an important factor.

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## WASHINGTON NOTES

"There Goes Another One": The demand for good grazing men continues. In the closing months of 1923 the Forest Service lost another good grazing man when Grazing Assistant Frank H. Rose, for some time past attached to the Hayden Forest in District 2, was selected by the Chief of the Biological Survey as United States game warden in charge of the Montana national bison range near Ravalli, Montana.

One of the big problems the Biological Survey is facing, along with the Forest Service, is that of the disposal of surplus game animals. Rose's first job in Montana was the killing, dressing and sale of about 75 head of surplus buffalo and elk. As these animals were shot with a rifle by the new warden, Rose probably can claim to be Buffalo Bill's legitimate successor, as it is doubtful if anyonne man killed that many buffalo since the passing of the big buffalo herds on the plains. The

Biological Survey is fortunate to have Smith Riley holding down one end of the game work in the Survey at Washington and Rose on the other end in Montana.

Rose entered the Forest Service in 1914 as a Guard on the Pike, became Forest Ranger in 1915, and was appointed Grazing Assistant in 1921.--W.C.B.

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Reverse English: The following paragraph is taken from a recent letter from Commissioner of Forestry Mowry of Rhode Island:

"This doctrine of cooperation is so incessantly stressed these days that one wonders where in the boundless maze of sociological therapy the limitations of its worth may be set. Cooperation has, to be sure, its legitimate sphere of application. But I sometimes wonder why some one does not tell how much good could be done if everybody minded their own business. This letter is not confidential."

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Photos of Game:Wanted: The Washington Photographic Collection is sadly in need of game pictures. Especially do we want some photos of deer in numbers. A photo of one or two deer means very little as an illustration of a herd of 40,000. These are, of course, hard to get, but a number of good ones showing 20, 30 or more deer in one bunch would be well worth the time and effort spent.--W.C.B.

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Do the Ayes Have It? A correspondent to the National Stockman and Farmer (Pennsylvania edition) for January 5 says: "The same dull, gray, dry, sawdust way of preparing agricultural bulletins has caused tons of paper to be practically wasted. Carloads of agricultural bulletins never have been read and never will be read by the mass of people they were written for, because the bulletins consist of page after page of big-worded 'scientific' text, set up in close-together, same-size type, 'explaining' table after table of little fine figures crowded into indecipherable columns. Some Moses needs to take hold of the agricultural bulletin business and lead it into a habit of plain statements in farmers's language; and above all to write the facts as far as possible with pictures. Several hundred thousand lead pencils and fountain pens now engaged in manufacturing agricultural bulletins need to be traded for cameras."--From the Department's Daily Digest, Jan. 9.

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## FOREST PRODUCTS LABORATORY

Get Your "Extra Standard" Board Here: The extra standard and the standard grades providing for the 26/32 and 25/32 inch boards which were adopted at the big standardization meeting in Washington this month are already being recognized in lumber advertising. One of the big associations is sending out a full-page circular worded as follows:

WE OFFER THE EXTRA STANDARD DRESSED BOARD

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Recommended by the
Forest Products Laboratory

Approved by the
Department of Commerce

Admitted by manufacturers to be the product of an inch board, commercially dry.

Preferred in questionnaire addressed to retailers of forty-eight states.

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"THE ONE HUNDRED PER CENT IDEAL"
Col. W. B. Greeley, Chief Forester

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Suitable for "Yard" and "Factory" Trade
Therefore
"EXTRA" - "IDEAL" - ECONOMICAL"

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It will be recalled that the larger size is the one recommended by the Forest Service in accordance with the findings of the Laboratory. The inclusion of the two grades is a compromise which made possible the adoption of the entire plan of standardization of lumber grades.

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## DISTRICT 1 - NORTHERN DISTRICT

Do Your Thanksgiving Shopping Early: There is a movement on foot to start a new industry on the Custer, namely, turkey growing on a huge commercial scale to utilize the excessive crop of grasshoppers raised each year - real conservation. "It's an ill wind that blows nobody good."

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Another Record Broken: The Selway reports a sale of 76,000 linear feet of green cedar poles and piling at 3¢. The total estimate is 228 M ft., with a value of $2280. The Selway is on the way to the top in timber production.

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Difficult Construction Work: Standard log observatories were completed this fall upon Wylie's Peak, Freeman Peak, and Vermillion Peak, all on the Selway. The Wylie's observatory offered a difficult problem inasmuch as the tip of a wedge-shaped rock pinnacle on top of the peak had to be shot off to provide a building site. The rock was shot down until it afforded a building site 20' x 25'. This left about 45 feet of the pinnacle still standing on top of which the house was built. Logs were moved to the top by windlass and a cable tram 170 feet in length. A rock tossed from any of the east windows of the house drops about 700 feet before striking.

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## DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

Trout Fry Planted in D-2: A total of 4,198,000 trout fry was planted by Forest officers on the National Forests of Colorado during 1923. Of this number 1,585,000 were received from Federal hatcheries and 2,613,000 from State hatcheries, 1,635,000 of the fish planted being the black-spotted or native species, 947,500 Eastern brook, and the balance rainbow trout. In addition to these numbers, 4,447,000 trout fry were planted on the Forests by local sportsmen's associations or private citizens.

On the five Wyoming Forests in District 2, a total of 1,170,400 fry were planted, 429,500 of which were obtained from Federal hatcheries and 740,900 from State hatcheries. About an equal number of black-spotted and Eastern brook was received, and a few rainbows.

Plants of fry were also made on the Black Hills and Michigan Forests, and the total number planted by all agencies on or near the Forests of District 2 reached a figure of over 10,000,000 fish.

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Michigan Planting: The fall planting operations on the Michigan Forest were closed on November 7 with a total of 1163.5 acres planted. All but 5½ acres of this amount was planted with 2-year Norway pine seedlings at an average cost of $3.64 per acre including the cost of the trees. An average of 716 trees was planted per acre. The authorized acreage for this Forest for the fiscal year 1924 is 1,000, so that the Supervisor has a net surplus to his credit.

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## DISTRICT 3 - SOUTHWESTERN DISTRICT

It Reached Intended Destination: The post office people have turned over to the Crook an envelope addressed to "Mr. Official Business, Safford, Arizona." It contained a money order covering a special use and was sent by a Maxican.

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Blow-Down on the Tusayan: Wind storm causes heavy loss in seed trees and does damage to logging camp. According to the Tusayan Bulletin, the storm of early December blew down about two million board feet of timber on the Saginaw and Manistee sale, most of which is within cut-over areas. On one area of from two to three hundred acres, over 80% of the seed trees is estimated to have been laid low. Several narrow escapes by the mill company's employees occurred. In one instance a large tree fell across a shack and practically cut the building in two. The two men who had been living there had fortunately moved into another building just before the tree went down. A brush gang of Indians moved from temporary quarters out into an open space and a tree crashed through one of the houses they had vacated. In the opinion of the Supervisor about three-fourths of the timber can be salvaged by milling it, as the logging camp and railroad are still in the vicinity. The seed tree loss which is, of course, the most serious part, is impossible of replacement.

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Forest Service and U. S. Forest Service: A D-3 Forest officer raises a question of terminology. There are forest services and forest services, he states, and the term Forest Service does not designate whether the Department of Agriculture bureau is meant or the branch of the Indian Service that handles reservation timber. It can even pertain to the forestry department of some commercial concern. U. S. Forest Service, on the contrary, means but one thing and does not admit of confusion. The Forest officer suggests that members of the U. S. Forest Service adopt that term in identifying themselves and in addressing communications to other members of the Service particularly when such communications come before the public.

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The Time We Spend on Cows: In F. Y. 1920 each head of stock - cow basis - received on an average 5.5 minutes of direct time from the Ranger. In F.Y. 1922 each head received 10.4 minutes of all time devoted to grazing and in F.Y. 1923 each head received 9.8 minutes of all time, apparently a good figure then, for grazing work units is 10 minutes per head or, say, 166 hours for 1,000 head, as against 92 hours in 1920.

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Eagles and Fawns: Recently while riding up Indian Spring Canyon, Ranger J. H. Mims of the Lincoln heard a sound as if a human being was in distress. He stopped and answered but did not hear it again. After riding perhaps fifty yards the sound was repeated and it seemed to come from the bed of the canyon. He tied up his horse and taking his rifle went down the side of the canyon to the bottom. He found a doe deer and fawn being attacked by five Mexican eagles. These eagles were in aeroplane formation and would swoop down at the fawn as they passed. The doe was standing over the fawn and at each swoop of the eagles would kick viciously at them. He watched this unequal combat for perhaps two minutes and then scared the eagles away. Both the doe and the fawn were almost exhausted. They did not seem to fear him and after a few minutes started up the canyon.

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## DISTRICT 4 - INTERMOUNTAIN DISTRICT

Change of Viewpoint: Not many years ago there was marked opposition among stockmen to any further restrictions by the Service regarding the use of ranges. The change of front manifested by large numbers of stockmen in the vicinity of the Cache has caused us to swell with pride. Near the Forest are large areas of privately owned range lands and it is customary for the owners to take stock to pasture for the summer. The owners of the land were so intent on enriching themselves that they overgrazed their lands. In recent years the stock have been returning to their owners in poor flesh from the privately owned ranges, while those that came from the Forest were in good condition. Prominent stockmen have expressed themselves as believing the National Forests to be the only salvation to insure permanency of their business.

At meetings held recently with two Forest users associations, the Service put forth plans to revegetate cattle ranges, which meant further deferring of the opening date for grazing and reductions in permitted numbers. The associations wished to make more drastic cuts in season and numbers than the Service proposed in order to speed up revegetation. At the annual meeting of one of these associations a reactionary president as far as the Service was concerned was defeated for reelection by a vote of 4 to 1.

At one of the meetings above referred to one man expressed himself as believing that salting methods could be improved. He said he distributed some salt and put some of it where there was a small bunch of cattle. A few days later he came along and observed that two of them had been struck by lightning. He was sure the salt was in the wrong place.--Cache.

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## DISTRICT 5 - CALIFORNIA DISTRICT

State Forestry Board Objectives: The following forestry objectives for California were outlined at a recent meeting of the State Forestry Board at Sacramento:

"Appropriation by the State legislature of sufficient funds for the prevention and suppression of forest, brush, grain and pasture fires outside of the National Forests.

"Acquirement of logged-off areas, both in the redwood and pine forests as a nucleus for State forests for a future timber supply.

"Enactment of State legislation necessary to enable the State to obtain title to all privately-owned timberlands, cut-over lands and brush-covered lands on watersheds, after the period has expired during which the owner of such lands has a right to redeem them under delinquent tax sales.

"Adjustment of taxes on privately-owned timberlands in such a manner as to encourage reproduction, perpetuate the timber supply and preserve the watershed cover.

"Maintenance and improvement of the present State parks for the use of the public for recreational purposes and the acquirement of additional desirable areas."

In adopting these policies the members of the board urged the cooperation of the people of the State in carrying them out.

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Prehistoric Grazing Trespass: A sheep herder recently picked up a large tooth near Sweetwater which we suspected formerly belonged to a mastadon.

The specimen was about three-quarters entire, in excellent state of preservation, and weighed a strong 3/4 pound.

The National Museum comments as follows: "The specimen is the hinder portion of a last molar of a mastodon - it seems to represent one of the Miocene or early Pliocene species and is referable to M. merriami."

These animals certainly must have had an enormous capacity at meal time, and had the Forest officers of the Stone Age commercialized their grazing, it is assumed that their caves would have required considerable reinforcement to avoid the clashing of crude implements over their craniums.

There is no record in the closed files of a mastodon having grazed on National Forest lands. Clearly a trespass case.--Mono.

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Newspaper Publicity: During the first 11 months of 1923, the District office received over 7,000 newspaper items on forestry subjects from a clipping service covering the California press.

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California Leads U. S. in Forest Fires: "The worst forest fire State in the Union." This in brief is California's National Forest fire record for 1923, according to report of the U. S. Forest Service headquarters in San Francisco, just made public.

More fires were started in the National Forests of the Golden State this season than during any year since 1917. Out of the total of 1,367 fires that occurred, nearly 50 per cent resulted from lightning, the remainder being due to human carelessness, and were therefore preventable. Of the man-caused fires, tobacco smokers started 358 or 50 per cent, and campers 117 or 16 per cent. Railroads, brush burners, lumbering and incendiarism accounted for the rest.

The total area burned over by fires within the National Forests was 173,257 acres, of which 145,437 acres were Government land, and 26,820 acres private holdings. The Forest Service spent more than $100,000 in extinguishing these conflagrations.

Eighty-six per cent of all fires that started in the National Forests were extinguished by forest rangers and cooperators before they had covered an area of more than 10 acres each. Forest officers also handled 152 law enforcement cases against violators of the State and Federal fire laws, and have secured convictions to date in 120 cases.

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## DISTRICT 6 - NORTH PACIFIC DISTRICT

Pacific Logging Congress Adopts Important Forestry Resolutions: Among the important actions taken by the Fourteenth Logging Congress which met at Spokane last October were resolutions endorsing the work of the Service. One resolution urged the necessity for more liberal appropriations for forest research so that this work in the Pacific Coast region could be put on an adequate basis similar to what has been done in other sections.

Careless smoking, especially of "tailor made" cigarettes, has been responsible for over 20 per cent of the annual fire loss for the last five years. Therefore the Logging Congress recorded its opposition to the use of "tailor mades" in camps and made its opposition known to cigarette manufacturers.

The Logging Congress endorsed using soldiers as emergency fire fighters and recommended to the War Department that this be kept in mind in any program affecting military posts in the West, particularly where such posts are strategically located in relation to forests.

Larger appropriations were again urged by State, Federal, Provincial, and Dominion Governments for protection against fire. Hearty support to forestry schools and students was also pledged, and it was urged that loggers make frequent visits to such schools and do everything possible to increase cooperation.

State legislation to make the teaching of forest fire prevention compulsory in all public schools of the West was another of the important resolutions. The Logging Congress also endorsed any practical plan for reforestation.

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The Stevens Pass Highway which will eventually connect Puget Sound with North Central Washington is open to the summit of the Cascades, and King County has promised to complete the other side next year. This road opens the way to some of the most beautiful scenery in the Northwest. The new construction is 9 feet on the Chelan County side and the alignment and grade are excellent, lending themselves to further improvement when money is available.

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Many Camps: Final figures show that about 12,000 people visited the Washington Forest last season, 10,500 of them entering the Mt. Baker District. Twenty-five States were represented; California, Oregon, Iowa, Minnesota and Kansas being the heaviest contributors (outside of Washington) in the order named. British Columbia was numerously present, and the foreign contingent was augmented by three Japs and one Swede.--R.L.C.

# Service Bulletin

U. S. FOREST SERVICE

(Contents Confidential)

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## MARKS OF FAITHFULNESS

By Jno. D. Guthrie, D-6

From time to time there is considerable talk in the Service Bulletin and various District Bulletins about the oldest Ranger in length of service on one Forest. Three or four veterans are brought forward in as many Districts with such records as 15 years, 16 years, 20 years. Then, the novelty gone, the contest dies, and these veterans move back into oblivion. And yet we all know of many such Rangers grown old in the Service, and their number will increase as time rolls past the years. These other undiscovered veterans - who brings them forward? Who places a wreath on their brows? Who even among their fellow workers knows the number of their years of long and faithful service?

The men themselves, modest as most of the old-time Rangers are, are not shouting their years. What have they to show this loyalty, what visible sign of long service have they - other, perhaps, than whitening temples? Surely not much in worldly wealth, nor goods, nor stipend. Their names on a pay roll and in the Directory, each filling a place in his little forest niche, and now and then talk of retirement - on $720 per year!

I could not help but think that for such veterans a stripe or two on the uniform sleeve would be proudly worn and would be viewed with both pride and respect by their fellow workers, as well as the world. Yes, I mean service stripes, to be worn as a badge of faith and loyalty to the Service through long years. Small, inconspicuous stripes, or braid around each cuff of the uniform showing a record of winters, springs and of fire seasons in the public forests.

At this point the pacifists and the anti-militarists will rave and see red and begin to talk of orders and discipline and swords and straight-jackets and democracy and 100 per cent Americanism!

Postmen, street railway men, railroaders, policemen, coast guards, custom house officers, all wear stripes or some mark to show their length of service in their organizations. Do these men wear these marks ashamedly? Postmen and policemen, some one sneers! Yes, postmen and policemen. I am not so sure that we Forest Officers have any grounds to sneer at the service of the postman and policeman and railroad conductor, neither am I sure that their service is any the less faithful than ours. We are no less public servants than these men. One one-quarter inch strip of braid (color of the uniform) for each five years of service and one one-half inch strip for each ten years - a symbol of service. No stars nor crescents, no shoulder straps nor Sam Browne belts, no mark of rank, just a strip of braid on the sleeve. I venture to say that once adopted the service stripes would eventually be worn with pride by every man in the

Service. The Ranger with his two stripes would rank with the District Forester and with the Forester, in a democracy of service and loyalty.

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## WHAT SORT OF AN ANIMAL CAUSED THIS "SHEEP DAMAGE?"

By W. R. Chapline, Washington

Such was the inquiry of an observant Forest Officer regarding some injured yellow pine specimens occurring some distance off the sheep range and which sheep could probably not reach unless they were provided with ladders. There is no doubt but what livestock, especially sheep, under certain conditions do injure yellow pine reproduction, especially so where there is insufficient food of a palatable nature for them. Hill and Sparhawk working independently both came to this conclusion in their Department bulletins Nos. 580 and 738, and Pearson confirms this in Bulletin No. 1105. Under such circumstances material adjustments are, and will always be, necessary to correct the situation, amounting in certain instances to total exclusion. Hill recommended reductions and adjustments to meet the situation as long ago as 1913.

Livestock have been blamed and are being blamed for injury which close observations would distinctly prove they had little influence on. Injury by tip moth, other insects, rodents, porcupines, birds, and other agencies, have all been laid to livestock. The "sheep damage" on the Kaibab, which has over 20,000 deer, extends many miles beyond the sheep range and affects terminals on reproduction five and six feet above the ground. In eastern Oregon an insect has caused defoliation on large trees as well as reproduction, but this is so clearly an injury not caused by livestock that it is not blamed upon the "sheep." Even the despised goat does not eat reproduction with the same relish with which he is usually credited if palatable foliage is available, though considerable scrubby reproduction never touched by a goat has been labeled as "goat damage."

If livestock is doing damage to reproduction, such adjustment in methods of management, reduction in numbers or season, or exclusion, should be made. But let's be reasonable, making our observations sufficiently careful to determine the real cause and solution, thereby preventing unnecessary injury to a well-established, essential, though at the present time struggling, industry.

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## TWO FOREST SERVICE HEROES HONORED

By Will C. Barnes, Washington

Two Forest Service heroes have been given lasting monuments through recent action of the United States Geographic Board, which body, on the recommendation of District Forester Cecil, has approved the name Frazier Mountain in honor and remembrance of Donald Frazier, U. S. Forest Guard, who died in Military Service during the World's War; and Mitchell Mountain for Roy Mitchell, a Forest Service employee who was killed while fighting fire on the Oregon National Forest. Both mountains are in Clackamas County, Oregon, and within the Oregon National Forest.

"Their glory dies not, tho the grief be past."

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## RANGER REACTIONS

By Perry A. Thompson, Malheur

Ranger Bob.- "Say, Sam, did you read the minutes of the "1045th Meeting of Service Committee" in Washington D. C. on November 30, 1923?"

Ranger Sam.- "I'll say I did! I nigh wore out the dictionary figurin' it out. Near as I can figger they was talkin' about us. 'T first I thought 'stimulatin' relations' an' 'essence' was probably some home brew that D. C. Inspector got over to the Super's last summer when---"

R. B.- "An' I thought they was referrin' to the stimulatin' talk we got from that same Inspector last summer when he saw where our brush burnin' fires killed 20 or 30 saplin's over on the Dott's sale area. Phew! Judgin' from the color of the Super's face durin' same talk you'd have sure recognized it as a 'stimulatin' talk.

R. S.- "Yessir - they was sure talkin' about us. Eldredge says we can boss our dogs - says we need to get our skins tougher so we can stand the tongue lashin' of some of these here visitors from the D.O. and Washington.

R. B.- "Oh Boy, Oh Boy! Didn't that feller Kneipp lambast us some too? Say what is a "supersensitive egotists?"

R. S.- "Le's see. You know the wife used to be a schoolmarm and she explained it all to me last night but I forgit exactly what 'tis. I guess it's a guy what has a nice, soft, white, tender skin from settin indoors an'--- "

R. B.- "But what's a 'egotists'?"

R. S.- "The wife says its a guy what never saw this ranger district but what knows more about it than the Super or me who's been ridin' it now for 10 years or more."

R. B.- "That same feller also says most of us are "non -- non -- nonegistant fatheads" er somethin' like that too."

R. S.- "Nonexistant factors the wife says, means that we dont count none when it comes to parcelin' out the salary raises."

R. B.- "I dont know as I got it all straight yet. Headley says our problems are all solved and expressed by settled policies and regulations. Hot dog! I'd like to see them Washington fellers stuck out on a good tough ranger district before bein' eligible fer them inspectin' jobs! Wouldn't that be the dope!?"

R. S.- "Sure would open their eyes, wouldn't it? Well I got to be goin' if I find out about that saltin' today. S'long. Gee dap, Molly, you lazy critter. Say Bob, Eldredge fergot to mention our horses."

Both- (muttering to themselves as they ride away) - "Thank Golly, Bill Greeley don't seem to be rarin' to put on a Sam Browne belt and make us all snap ter attention everytime one of them shows up. m-n-m-m-m- 'N three cheers fer Preston too."

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## COMMENT FROM THE RESEARCH EDITOR'S OFFICE

The greater part of three weeks spent with a manuscript that had not had the advantages of outline revision or criticism in preliminary form by a Board of Review has served to convince the editor, were he in need of further evidence, that manuscripts so submitted are responsible for much waste of time and misdirected effort. A paper which the author regards as finished gains a strong inertia that is difficult to contend with. In the instance mentioned, a radical reconstruction of the paper was necessary; and this is likely always to be the case with a study on which the author has not had the assistance of a disinterested person in the early stages of the work.

With an outline perfected that truly represents the author's concept of the structure of his paper as he sits down to put the results of his work into writing, and that is a sincere effort to put headings for headings and subheadings for subheadings, the article itself is a comparatively simple matter to elaborate. With a thorough understanding of the relative importance of the many features of his work and their proper correlation and coordination, half the author's work is done. On the other hand, an author who cannot state in acceptable form the outline of his scientific paper cannot write an acceptable paper. There may be exceptions to this rule, but not nearly so many as there are persons who believe that they are exceptions to it.

The editor is blue-penciling "per" and "data" liberally these days, and glancing askance at "optimum." "Per cent" is, of course, good style, when "percentage" is not what is meant. But "per day" and "per acre" and "per diameter class" are usually a sloppy avoidance of good English. Where possible the editor is substituting an English expression for the dog Latin. As for "data" the trouble with it is that it is a perfectly good dictionary expression for any material that is used as a basis for deduction or conclusion, and consequently there is no grammatical law against its use on every possible occasion; and it is so used. For this reason alone, all "data" must successfully defy substitution to escape the blue pencil. Incidentally, it may not be bad form to remind authors that "data" is always, invariably, inexorably plural; there are some who still prefer it in the singular.--C.H.

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In the case of Mr. Upson, Chairman Bailey wrote: "Mr. Upson was at first assigned to the classification of engineering positions, particularly materials engineering; and, later, on account of his adaptability and grasp of classification principles he was charged with the classification of small groups of positions not otherwise assigned, and with the review and revision of the work of other classifiers. In performing this work, Mr. Upson was particularly effective in bringing to bear not only his knowledge of the duties of positions in the Forest Service but also of technical positions in his profession. The Board wishes to express its appreciation of the Department's assistance in detailing Mr. Upson to its staff."

In the case of Mr. Granger, Chairman Bailey wrote: "Mr. Granger was at first assigned to the classification of positions involved in activities connected with the conservation of natural resources; and later, on account of his adaptability and grasp of classification principles he was charged with special assignments and with the review and revision of the work of other classifiers. In performing this work, Mr. Granger was particularly effective in bringing to bear not only his knowledge of the duties of positions in the Forest Service, but also was able, through personal inquiry and investigation, to do excellent work in the classification of positions in other branches of the Government. The Board wishes to express its appreciation of the Department's cooperation in detailing Mr. Granger to its staff."

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"L.M.S." Has Passed On Beyond: During the period from 1898 to 1905 the men in the Forest Reserves knew of the head office of the organization as a remote agency from which issued, from time to time, letters of praise, censure, and instruction, each bearing in its corner a cryptic monogram of three letters. References, friendly and otherwise, were made freely to "J.B.S.", "J.D.L.", "J.T.M.", and "L.M.S.", who at first loomed in the minds of the field as impersonal agencies. But slowly and by devious ways information percolated into the field regarding the personalities of the people behind the initials and as time wore on recognition grew that they represented real persons working earnestly toward a common end of public service.

Perhaps it was her sex, perhaps her clear vision, her lucid statements, that made L.M.S. a popular favorite, but whatever the cause men spoke well of her, took her instructions in good part and by that token made progress in their work. And now, after all these years L.M.S., or, in other words, Miss Lucy M. Strong, has come to the close of her long and useful life, having passed away in Philadelphia on January 16.

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## FOREST PRODUCTS LABORATORY

Secretary Wallace Compliments Laboratory: "The close cooperation between the wood-using industries and the Forest Products Laboratory is very gratifying to me, and you may be sure that the work of the Laboratory has my hearty approval," is what Secretary Wallace wrote to E. E. Parsonage, President, Association of Wood-Using Industries.

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Big Battery of Dry Kilns Built According to Forest Service Type: One of the largest batteries of lumber dry kilns built since the war is now being installed by the Oregon-American lumber Company at Vernonia, Oregon, fifty miles northwest of Portland. This is a battery of twenty-eight dry kilns of the Forest Products Laboratory fan circulating type, patented and dedicated to the public by Laboratory engineers. The dry kilns are part of a complete modern sawmill that will be capable of cutting 750,000 feet of lumber in a twenty-four hour day. It will run mostly on Douglas fir. The company has recently made a satisfactory test of the internal circulation kiln on shortleaf pine down in Texas where some of the green lumber contained up to 200 per cent of moisture. The Laboratory supervised an experimental kiln of this design at Tacoma in 1922 for seasoning Douglas fir with notable success.

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## DISTRICT 1 - NORTHERN DISTRICT

Advertising Pays: J. A. Larsen of the Priest River Station thinks it pays to advertise. Witness his contribution:

Mark Twain in his early days was editor of a Missouri newspaper. A superstitious subscriber wrote him, saying that he had found a spider in his paper, and asked whether that was a sign of good or bad luck. The humorist wrote this answer and printed it:

"Old Subscriber; finding a spider in your paper was neither good nor bad luck for you. The spider was merely looking over our paper to see which merchant is not advertising, so that he can go to that store, spin his web across the door, and live a life of undisturbed peace ever afterwards."

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## DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

Christmas Tree Agitation: A number of letters from different sections of the country have been received in this office protesting against the immense number of young trees that are sacrificed for Christmas decorations. One correspondent from Detroit states that the local papers estimated that over 100,000 trees were not sold and had to be burned in great bonfires, or in many cases were left by the dealers on vacant lots. The sentiment against this needless sacrifice was so great in Michigan that protests have been made to the Governor, and he has ordered an investigation.

A correspondent from Duluth estimates that $10,000,000 spent annually in reforesting would not replace the Christmas trees that are cut every year in the United States, and he also mentions the large excess cut over the requirements. It has been suggested that this could be overcome by local ordinances which, in addition to requiring Christmas tree peddlers to take out licenses, would limit the number of trees to be sold by peddlers so that the total number would not be in excess of the estimated requirements of each city.

Unless some remedial measures of this kind are passed, undoubtedly action will be instituted in many places to require the use of artificial, fireproof Christmas trees instead of beautiful evergreens.

There has been considerable favorable sentiment expressed in Denver over the sale by the Forest Service of a large number of trees which were cut for the improvement of the forest stand and whose removal was really a benefit rather than a sacrifice of growing young timber.

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## DISTRICT 3 - SOUTHWESTERN DISTRICT

Permanent Christmas Tree at Taos: While Christmas of 1923 has passed into history and doings about Christmas trees are no longer current news, some accomplishments by Forest Officers are likely to endure. Through the leadership of the Carson staff a permanent Christmas tree was set in the plaza of the historic old town of Taos, New Mexico. Taos is one of the oldest towns in America. It is backward in many ways and the influences of its early days still hang over it. It has never, in fact, even been incorporated but it is up to the minute in one thing; it has a live, permanent Christmas tree. The tree is a Colorado blue spruce about sixteen feet high. A large section of solidly frozen earth was lifted with it and the root system was not disturbed. Taos people are confident that the tree will live and grow and that from Christmas to Christmas children will frolic about it and receive community treats. About 800 people attended the festivities this year and the tree will stand as a thing of beauty throughout the year. It will not lack care but should it die it is declared another will take its place.

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New Mexico Timberlands Will Have Federal Fire Protection: Formal agreement has been made between the Forest Service and the New Mexico State Land Commissioner by which the State-owned timber in New Mexico will hereafter receive the benefit of fire protection by the Forest Service. The expense to the State will be at the same rate as the costs of fire protection on adjacent National Forest lands which vary from $\frac{1}{2}\phi$ to $2\phi$ an acre per year. The agreement has been informally in effect during the past season but with January 1, 1924, it becomes a formal arrangement. The new system will put New Mexico well into the class of progressive states from the standpoint of conservation of State-owned timber resources.

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## DISTRICT 5 - CALIFORNIA DISTRICT

More Destructive Than Fire: The American Lumberman is the authority for the statement that in the control project area in southern Oregon and northern California, a territory a little larger than the State of Delaware, the western pine beetle during the past ten years killed over 1,000,000,000 B.M. or fifty times the amount of timber fire killed on the same area and during the same time.

Tests have demonstrated that, with the establishment of as effective beetle control as the present fire control, losses due to the beetle can be reduced to less than fire losses.

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The Angeles Shows the Way: During 1923 the Angeles with 1,671,000 visitors only had 53 man-caused fires, or an average of 1 man-caused fire to each 31,500 forest visitors, and of the 53 violations 51 were prosecuted.

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Some Go-Getters: On the morning of September 16 last, a fire started in the Flea Valley country on the Lassen. The wind was blowing a gale, the slope was steep, with a heavy stand of yellow pine and Douglas fir reproduction from eight to twenty feet high ahead of the fire. That afternoon a line was built and held in the edge of the reproduction, although the wind blew hard all night. Instead of having "roast beef all over the country," as one old-timer said we would, the fire burned only about 160 acres.

Here, then, in the most dangerous part of the fire season at the worst time of day, with a strong wind behind a fire burning uphill, the line was held. The conclusions are:

(1) This may be one case in a thousand or else
(2) Some of us are inclined to be more pessimistic than need be about the extremely high hazard, under all conditions, of these areas of thick reproduction.--C.D.M.

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## DISTRICT 6 - NORTH PACIFIC DISTRICT

Results of PR Work: Ranger Lewis of the Siskiyou writes: "Fire season is a thing of the past and we have the pleasure of reporting no man-caused fires on the Page Creek District for the first time. We do not feel that this is entirely due to weather conditions. Rainfall was below normal and this district was probably as dry as any in the Forest. It was not due to lack of visitors, as 15,000 people visited this district. We feel sure that the splendid advertising campaign by the entire force on Fire Prevention sold very good.

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Here's a New "Standard": The following definition of our work appears in the text-book on Civil Government by Paul S. Reinsh, Ph. D., which is in use in the schools of this State (Chap. XIII, p. 102):

"The work of a forester or forest ranger is very healthful and interesting. He rides horseback from sunrise to sunset through the most beautiful forest and mountain scenery, visiting agricultural settlements and passing through areasvto see that no illegal act is committed."

Now how do you like your job?--G.E.G.

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FOREST SERVICE U S DEPARTMENT OF AGRICULTURE

# Service Bulletin

U. S. FOREST SERVICE

(Contents Confidential)

Vol. VIII, No. 5. Washington, D. C. February 4, 1924.

## HISTORICAL LIGHTS ON THE GRAZING POLICY

By Will C. Barnes, Washington

There has been a great deal of wild discussion indulged in by many National Forest permittees as to the unjustness of the proposed increase in grazing fees based upon the commercial value of the forage. A favorite statement is that it is "contrary to the fundamental principles of American government." Also that had the stockmen of the West understood the grazing fees would ever be increased above the mere administrative costs of handling the ranges the National Forests would not have been established. The claim is constantly made that this was practically guaranteed the West at the time the Forests were placed under administration.

It is interesting to go over the original documents and publications connected with the creation of the National Forests and learn exactly under what conditions they were established. Those of us who were either in the Forest Service in early days, going back as far as 1901-'02, or who were grazing livestock on the areas proposed to be taken into the then-called "Forest Reserves," remember very well that, in the beginning, on a majority of the reserves, grazing of sheep was absolutely prohibited, and on some of them cattle were looked on with a very suspicious eye. The Forest Reserve Manual, approved by the Secretary of the Interior on April 12, 1902, contains the following statement:

"Grazing in Forest Reserves.

> "The Secretary of the Interior, in being charged with the proper protection of the forest reserves, has the right to forbid any and all kinds of grazing therein.
>
> "Whenever the grazing appears to do no marked damage to the forests of the reserve, grazing is allowed by the Department; but until the Secretary has decided that it will do no harm, * * * * the grazing of stock is prohibited; and all parties responsible for its presence in the reserve prior to such decision by the Secretary of the Interior, are liable to criminal and civil suits for trespass and damage."

On July 1, 1905, in Regulation G-25, the Secretary of Agriculture for the first time established grazing fees. For the yearlong period they were from 35 cents to 50 cents per head for cattle. The following statement was included in this regulation:

> "These prices will be gradually advanced when market conditions, transportation facilities, and demand for the range warrants such action."

The foregoing shows clearly two important points:

1. That in 1902 there was a prohibition against grazing on all Forests.

2. That the question of grazing fees came up almost at the beginning and, when established, the public was given notice that the fees would be increased from time to time.

From 1906 to 1911 the fees were changed but little. In 1912 the Secretary established the grazing fees on a slightly higher basis, the average increase being about 5 cents a head on cattle.

In 1915 the basis was placed at from 48 cents to 75 cents per head per year for cattle. The ratio between cattle and sheep was changed from 1 to 3 to 1 to 4. This figure, as many of you will remember, was a compromise, the sheep men asking for 1 to 5.

In 1916, while the minimum was left at 48 cents the maximum was placed at $1.25. This was the year when due to criticism by Congress that our fees were too low we undertook to make a general raise all along the line. Secretary Houston gave notice that on March 1, 1917, all grazing fees would be increased varying from 12 to 20 cents a head with the same amount of increase in 1918 and 1919. This also set the fees at from 80 cents to $1.50 per head per annum.

On February 1, 1917, the Secretary announced that beginning with the grazing season of 1917 all fees would be increased 25 per cent over those charged for the season of 1916, and postponed increases in succeeding years until investigation could be made into the comparative values of government and private ranges. On November 14, 1917, due to our entrance into the war, he postponed any further increase.

On March 1, 1919, Secretary Houston announced that grazing fees for 1919 would be increased according to the March 1917 plan. Taking all the adjustments and increases between 1906 and 1919 the average total increase was considerably above 150 per cent.

At the hearings before the House Committee on Agriculture in December 1919, and later again in February 1920, the Committee expressed very frankly a desire to raise the grazing fees about 300 per cent. They wanted the Service made self supporting. It was due to the representations made by the Forester at these hearings that the fees were not put up at that time. The Forester insisted that while he recognized that the grazing fees were not upon a commercial basis, nevertheless there was no information in our hands which would justify or support an increase of 300 per cent. The Forester agreed to gather the necessary data and place it before Congress as soon as possible. This was done and our range appraisal work represents what the Forester and the Secretary consider a fair and just valuation of both the National Forest ranges and those comparable areas in private hands.

It is well for Forest officers in discussing this matter with their permittees to bear in mind three vital facts:

1. That originally the elimination of grazing on all Forest Reserves was an established policy;

2. That full publicity was given to the fact that the first grazing fees were to be increased from time to time; and

3. That it was not the Forest Service which brought about the demand for this final increase but the direct desire of certain members of Congress to have it done in order that the Forests might become self sustaining.

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# THOSE NINE-FOOT ROADS

By Arthur B. Young, D-3

It may be due to improper and unwise allocation that the nine-foot road has come into such disrepute. There is often considerable misapprehension and lack of information as to the probable use of a proposed road within a Forest, and only after a nine-foot road has undergone trial and suffered abuse do we awaken to the fact that a wrong standard was chosen and the road should be wider. The cause for the change in attitude is traffic; the effect is a satisfied and boosting public; the outcome is a duplication of overhead expenditure and the final road costs more than a road constructed to the same width originally. And we have no good and sufficient reason for having made the excess dip into our public treasury, excepting lack of facts. To lead and please the public is an undertaking that requires effort in every Forest Service line, as the verdict is given in the aggregate. We cannot lead nor please the public when we hand them a nine-foot road to form a link in the "Road to Elsewhere."

It is practically impossible to confine drainage, because of traffic following a fixed line and throwing destructive shoulders upon either one or both tracks, surface or no surface. Such a road is unsafe, mainly because of lack of space to catch up skidding or to manipulate a motor vehicle safely. The danger is enhanced by a real fear of going over the bank in spite of the fact that statistics will show that there are more "pile-ups" and fatal results upon the 18 to 20-foot lowland road than in a narrower mountain road.

In 1922 I built seven miles of narrow road through an adobe and malpais country. During 1923 approximately five and one-half miles of twelve foot were added and it was an education to gather in the comments of the motley throng, which hailed from close in and far off, as it traveled the two different specimens. Coming from the South many would stop at camp and inquire: "Who is building the road? How far does it go? Keep it up, you are doing good work and we will tell the country just how a conservative width appeals to us and that the Forest Service is hitting a happy medium." Coming from the North we would hear: "This in the blank, blank, blankest road I ever saw, and it must have been some poor blank, blank, fool that built it."

There is danger that in sacrificing width there is likely to be a sacrifice in quality. A nine-foot road remains exactly where it is built and is subjected to intensive wear. Give the nine-foot road a twelve-foot yard to play in and its life is lengthened very considerably. The cut in width may be a costly sacrifice, since the placing of surface upon the narrow road that is to stand under reasonable traffic is only the beginning. Maintenance is the stumbling block. There is an opportunity to lead the water off a narrow road but keeping it off is quite a different thing. To-day the drainage is controlled, tomorrow, because of traffic going along one line, it is free.

There is no real argument against the nine-foot in itself, used where it properly belongs, such as to give access to ranger stations, etc. As a means of cultivating in the public a liking for roads of conservative width the nine-foot is of negative rather than positive value.

In deciding the type of road to be constructed the most important question is, "What probable amount of traffic must it support?" There is no use, when we have met with disapproval (public, of course), in kidding ourselves into the alibi, "Well it is a Forest Development Road and was not meant for any considerable traffic." Much as some of us feel that we would rather lose the appropriation than have the public run our road business, yet in the end whose interests are we safeguarding?

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## WORK PLANS - HOW DO THEY TASTE?

By Roy Headley, Washington

Mr. Preston contends in the open forum at the Atlantic Building that the Washington office is cramming work plans and standards down the throats of an unwilling field force and that these administrative methods are pushed in a way which makes them sought as an end in themselves, not as a means to an end.

Maybe so and maybe not. District 4 is running a series of plan-boosting articles in its district daily sheet. District 2 is planning a new kind of ranger meeting for the coming winter and by way of preparation has sent out a 40-page circular on work plans, giving liberal quotations from writers, discussing the ranger's planning problem and listing questions to study in preparing for the meetings. There are to be no long papers but instead there will be discussions of subjects on which all present will have prepared themselves beforehand. These and other publications in other districts sound like there is a live interest in work plans as tools which men want to learn to use for the help they can get from them in accomplishing the things they themselves want to do.

On the other hand, Mr. Preston asks, is this enthusiasm a mere passing excitement induced by the attractive pictures and descriptions given in the administrative style book as prepared on F Street? Will the tumult and the shouting die when the captains and the kings turn their hands to other things? Is Mr. Preston right?

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## WASHINGTON NOTES

Tim Hoyt Writes Interesting Book: To those who are interested in stories of old days on the western cattle ranges Tim Hoyt's "Rimrock," which is just off the press, will come as a most interesting and welcome piece of descriptive and historical writing.

With a whole lifetime of experiences behind him as a cowpuncher, citizen, politician, and Forest officer, Hoyt, residing at Snowflake, Arizona, since he resigned from the Forest Service, has no need to draw on his imagination for thrills or local color.

The book, which is a standard publication and sells for $2 a copy, is full from cover to cover with vivid word pictures of life in southern Utah and the Arizona Strip as it was in the years gone by never to return again. Pictures of old pioneers fighting for what they honestly felt was their "right" to do with the public land whatsoever they pleased and woe betide the man who crossed their lines! Pictures of the old-time cowpuncher who would hardly be recognized by the movie fans of to-day! Pictures of the West as it was before civilization cut too deeply into the romance and individualism of the old-timers!--W.J.M.

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Receipts for First Half of Year: For the first half of the fiscal year the total income from all sources of the National Forests amounted to $2,372,020.66. This represents a decrease of a little over $43,000 from the same period last year. Timber sales increased over $178,000, while grazing on the other hand fell off almost $220,000.

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"Lignostone," the New Wood: The prohibitive cost of importing hardwood into Germany is the particular necessity that has mothered the invention of "Lignostone," the manufacture and output of which is controlled by the Kaffee Handels-Aktiengesellschaft of Bremen.

The new product is very hard, and is made from beech, but birch and pine may also be used. In manufacturing this product, the tree is sawed into boards of the thickness required in the finished article, after which the boards are very carefully seasoned. They are then placed in large iron containers, in which hot liquid asphalt has previously been poured, and the whole is subjected to a pressure of 300 atmospheres for thirty minutes whereby the cells are entirely closed and the wood receives its consistency. The asphalt is used to prevent the possibility of moisture entering the wood cells.

The sample received at the Laboratory is very hard, takes a high polish, and is not easily cut with a knife.

The wood is used principally for door knobs, brushes, weaving bobbins, phonographs, and so on. No cost figures of manufacture were obtained, but it is believed that costs are prohibitive.

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## DISTRICT 1 - NORTHERN DISTRICT

A canvass has been made of those Forests in District 1 that have tried the camp fire permit system. All are agreed that the present form of permit is satisfactory; that when restricted to certain well-adapted areas the issuance of permits is not seriously burdensome on the Forest force or on the camping public, and that the duration of permits should generally be for the specific trip during which the applicant desires to remain in the locality. On the Lewis and Clark Forest, where the system has been more thoroughly tested, season permits are granted to responsible local people.

The Lewis and Clark makes the securing of permits a rigid requirement and aims to prosecute for all violations of the regulation, whether first offense or otherwise. Others believe that a warning is sufficient for all first offense violations.

The Lewis and Clark and Clearwater believe, after trial, that permits may well be issued by certain carefully selected persons outside of the Forest Service. The Kootenai would have all permits issued by Forest officers because of the contact gained and the responsibility involved.

No Forest has as yet indicated any desire to extend the permit system to the entire Forest, although several additional Forests contemplate using it on limited areas.

On the basis of the information available at this time there seems to be nothing to warrant any change in the existing policy in regard to camp fire permits. It is desirable, however, that the situation on each Forest be scrutinized carefully to determine whether there are areas on which the system could be applied to advantage.

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## DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

Data on Spiral Grain: Several years ago when lookout on the Pend Oreille I had a good opportunity to investigate spiral grain of various species in a large 1910 burn. Of 396 white fir (A. lasiocarpa) measured, 85 per cent had left to right grain, 14 per cent right to left, and but 1 per cent had straight grain. A study of 26 white pines showed 14 with left to right and 4 with right to left. Additional observations on yellow pine and Engelmann spruce on the Pike lead me to believe that both directions of spiral are present in all species with the left to right always predominating. A peculiar fact noted in the study of the white fir was that the majority of the trees having right to left spiral occurred on the south slope but whether exposure is a determining cause of spiral direction is still an open question in my mind.--C.H.P., Pike.

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Spiral Grain Trees - Exceptions: In the October issue of the Service Bulletin, E. K. answers the question of Ranger Allen F. Space regarding the grain of trees always running in the same direction. This same question came to my mind last summer after having noticed several right hand spiral grain trees of Western Yellow Pine. Upon further observation I found very frequently a left hand spiral grain of this species. Cedar (Juniperous Virginiana) does not grow to a very large size in the Black Hills, but trees of this species have been found with a very decided twist, some right and some left hand spiral. If anyone is sufficiently interested it might be possible to obtain a picture of each species where two trees with opposite spiral grain can be shown.--D.F.McG., Harney.

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## DISTRICT 3 - SOUTHWESTERN DISTRICT

Yellow Pine with Big Cones: From the H & H sale on the Carson comes a report of a freak yellow pine. It is a 20", 3-log mature tree standing among a group of its fellows on an excellent growing site. Many trees in the group are much larger and taller than this one but there are indications in the crown that the tree was somewhat suppressed in its earlier years and this may account for the small size. The strange thing about the tree is that while it appears to be an ordinary yellow pine such as thousands of others, it is a prolific seeder and bears cones about twice the size of ordinary pine cones. Opened cones from this tree measure up to 5.8 inches long by 11.5 inches circumference. The pine is surrounded by a group of saplings of which it is probably the parent tree.

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Old Relics Unearthed by Ranger: The Datil Bulletin tells of an interesting find by Ranger McCament. The Ranger was riding through a rough and little frequented portion of the Jewett District when he came onto what may have been the cache of some wild Apache. Under a considerable quantity of loose stone and other debris, McCament found an ancient Spanish ring bit, the remains of an old saddle made from native oak and put together with oak pegs, a large quantity of oddly spotted and striped glass beads, bone beads, small sleigh bells and brass buttons.

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Ips on the Rampage: Lumberman Perry of the Carson reports that as a result of clearing in pinon timber by new settlers along the south boundary of that Forest there are many thousands of pinon trees dying from an attack of Ips. This small beetle, also known as the Five Spined Engraver, normally breeds in slash and as a usual thing does but little damage to living timber.

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Tusayan Blow-down Timber on Market: About a million and a half feet of western yellow pine merchantable down timber spread over an area of 1600 acres is being advertised for quick sale as the result of the wind-storm on the Tusayan in December.

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## DISTRICT 5 - CALIFORNIA DISTRICT

The Greatest Playground in the World: District 5 has compiled figures on the number of people who visited the National Forests of California during 1923. This is the first time a careful estimate has been made, and the totals given have been checked from sources independent of the Forest Service organization and found surprisingly accurate.

As playgrounds the National Forests of the Golden State stand supreme; the Angeles Forest alone with a total of 1,671,017 people had more visitors than all the National Parks and Monuments combined.

All have appreciated the problems recreation has imposed from the tremendous travel of vacationists, and wild guesses as to the number of visitors have been made, but the totals given below exceed the highest anticipation and are worth preserving for reference.

(a) Class of Travel

| | Special Use Permittees | Hotel & Resort Guests | Campers | Picnickers | Transient Motorists | Totals |
|---|---|---|---|---|---|---|
| Grand Totals: | 100,248 | 430,595 | 618,163 | 768,412 | 2,419,282 | 4,336,700 |
| % of Total | 2% | 10% | 14% | 18% | 56% | 100% |

(b) Mode of Travel

| | By Automobile | By Railway, Trolley & Stage | Hikers | All others- Wagon, Horse-back, etc. | Total |
|---|---|---|---|---|---|
| Grand Totals: | 3,797,604 | 360,981 | 140,969 | 37,146 | 4,336,700 |
| % of Total | 88% | 8% | 3% | 1% | 100% |

Over seven times as many traveled by automobile as by all other modes of travel combined. How many years ago were the percentages of automobile transportation and wagon or horseback transportation reversed? Not over fifteen years. Last year 88% traveled by automobile and 1% by horse power in the raw.

Last week Ford reduced the price of his "Lincolnette." Watch the Travel figures for next year climb.

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## DISTRICT 6 - NORTH PACIFIC DISTRICT

Mount Hood attracted many visitors during the past season. Nearly two hundred persons made the American Legion annual climb from the north side on July 15. On the same day a party of editors from the State Editorial Association climbed from the south side. Several other parties from the south side also went up making the total number of climbers for the day almost 300. Smaller parties climbed the mountain nearly every day. 'Lige Coalman, the first lookout man on Mt. Hood, was back on the mountain again this season as guide on the Government

camp side. "Spot," the dispatcher's fox terrier, has been to the top three times this season. He got pretty cold the first time he went up and stopped a long time on the hot stones at Crater Rock until he was warm enough to travel again. It is rather unusual for a dog to go to the top of Hood.

The Agness Bridge, Supervisor MacDaniels of the Siskiyou reports, is beginning to take shape. Every once in a while a shower raises the top of Rogue River far enough from the bottom to permit another keg of nails or sack of cement to be brought in. The sum of $18,000 is already in the project and $7,000 more is needed to complete it.

Special Train: When Ranger J. A. Graham of the Oregon Forest was confronted with the problem of transporting the material for a new cabin and 35-foot steel lookout tower from Cedar Swamp on the Bear Springs road to the top of Mount Wilson, he improvised a special train made up of two heavy wagons and the ten-ton tractor he is using in construction work on the Oregon Skyline road, loaded the material on, cut out enough trees along the trail to let the procession pass and in two trips took the whole outfit to the top. The "train" crew consisted of J. A. Graham, conductor, John Sinclair, engineer; and Ben Richardson, brakeman. The caterpillar negotiated the steep grades of the Mt. Wilson trail and crawled to the top without mishap except for losing the track once. The construction of the new cabin and the erection of the steel tower were completed this summer. The top of the tower is a lookout house 6' x 6' also of steel construction. This contains the fire finder and protects the lookout man while on duty.

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Forestry Interest Grows: Over 8 pages in the Lumber World Review of October 10 are devoted to the Special Senate Forestry Committee's hearings and trips on the Pacific Coast, six pages of this being a reprint of the compilation "Forest Figures for the Pacific Coast States," copies of which were sent to all Forests in D-6.

Guilty: On November 17, 1923, G. W. Ager pleaded guilty in the U.S. District Court for Oregon for violation of Regulation T-3 (C) and was fined $100.00 and agreed to pay for the damage to the Forest on account of a grazing trespass in the amount of $48.60.

The offense for which Mr. Ager was arrested consisted in breaking into the Clover Creek Ranger Station on the Crater Forest, using the equipment and supplies therein without having obtained permission from Forest officers. He had been denied a grazing permit on the Crater National Forest, notwithstanding which he grazed his sheep thereon, in addition to the offense above described.--W.F.S.

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## CARELESSNESS

Editor's Note: The following poem was clipped from Service Letter of the Pennsylvania Department of Forests and Waters. Not so bad for a kid, eh, what?

Little sparks from camp fires,
Caused by a careless hand,
May change our giant forests
Into devastated land.

A little care and forethought
Administered now and then,
May save our mighty forests
For the benefit of man.--

George J. Latavic,
Senior, Hazleton, Pa., High School.

# Service Bulletin

U. S. FOREST SERVICE

(Contents Confidential)

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## "LIBERTY AND UNION"

By W. B. Greeley

History tells of many people, the saintliest of their times, who were so concerned for the purity of their souls that they devoted their lives to prayer, fasting, and self-torture. The best evidence of the inrooted spirit of initiative and responsibility among Forest Service men is the lively fear that we may lose these qualities or the opportunities for their exercise.

Most of us hark back to the zest of "them halycon days" when things were in the making. Then we tackled new problems every day, without instructions or precedents. We had to figure things out for ourselves and deal first-hand with whatever came up. I settled my first grazing trespass on the Sequoia by charging four times the regular fee for the unpermitted stock. Some months after the Law Officer in Washington asked me by what legal principles I had arrived at that settlement. "Legal principles be hanged," I said. "That trespass was settled on general principles."

Much water of experience has gone over the dam in eighteen years. It has been a process of trying out, of profiting by many mistakes, of showing up the best ways of doing things through test and comparison. Of necessity policies and methods have crystallized, as the field men have had to handle more work and a greater variety of work. Our main activities have had to become standardized and to run in more uniform grooves, just as business organization, machinery, and expert engineering along proven lines have to follow the prospector and coffee-mill mine.

The responsibility of the Forest Service for results has become sharper and more definite. It is like the change from pioneer railroad building to the operation of a traffic system, responsible to investors and directors for returns, to public commissions for rates and service, and to shippers for equipment and schedules. The day of laying foundations for the National Forest enterprise along big lines has passed. We are well in the stage of operation. The public no longer accepts the National Forests on faith. They know much more about our work and watch it much more closely. We are held to account more and more sharply for expenditures and receipts, for fire losses, for the condition of our cuttings, for the character of the service rendered. "Making good" is getting down to specific details.

These changes require a closer-knit organization and the standardization of policies and methods. Every Forest officer learns from experience, but the Service as a whole should learn much faster. We have got to constantly cull out the best which the experience of individual men has taught, forge it into a general tool, and then put it into general use. Otherwise, the Forest Service will not keep up with the evolution in its job.

All of which necessarily means that the freedom of action and judgment of the old days have had to be more or less restricted by prescribed methods, standards, or whatnot. But all of which does not mean for a moment that the Forest Service is losing its democracy, or its initiative, or the sense of personal responsibility among all its members. Nor does it mean choking off individual opportunities for creative work or the constant flow of new ideas from the bottom to the top. These are vital to the Service and we need them as much as ever. Particularly do we need the sustained driving power of loyalty to the things the Service stands for.

Creative work appeals to a normal man and is the magnet which holds many men in the Forest Service. The opportunities for it are as many and as varied as they ever were. Recent developments in public relations, recreation, forest management plans, and meteorology as related to fire control are examples. No process of standardization will ever close the door to the initiative or resourcefulness of the man in the field. New outlets for inventive genius are constantly appearing. And besides, our standardized processes must constantly be overhauled and remade as fresh ideas are tried out and pushed forward to challenge the existing order.

There should be no great difficulty in preserving the capacity of the Forest Service for initiative and individual responsibility side by side with recognized authority and an acceptance of the policies, plans, and methods which represent the best which the organization has yet evolved. Both are essential to good team work in any sustained effort. But, on its own part, the leadership of the Forest Service must not only command confidence. It should develop policies and methods through discussion and a common understanding from the bottom up. It should always invite constructive criticism. And it should make the encouragement of creative work and opportunities for individual advancement or satisfaction in distinctive service one of the great goals of administration.

In a recent paper before the Society of American Foresters, H. H. Chapman said that the ideal in forestry organizations in general is a "tension" between individual initiative and freedom of action, on the one hand, and central authority on the other. An adjustment between these two forces, with neither overbalancingnor outpulling the other, gains the benefit of both. It is something like the balance between centripetal and centrifugal forces in a smoothly running machine. It is what we want in the Forest Service.

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## AUTHORITY AND LIBERTY OF JUDGMENT

By Geo. H. Cecil, D-6

I have read with a great deal of interest Mr. Kneipp's "Authority." There is no doubt that the points discussed in this article are of fundamental importance to the organization. Mr. Kneipp is old in years of service at least and has had a rich and varied experience in Forest Service endeavor. I hestitate to take issue with him in view of these facts, but I cannot agree with him that "our present day organization is based on old style conceptions in which the ultraradical thoughts of to-day had no part." That is, if by "ultraradical" is meant "liberty of judgment and action" - I have left out "unrestricted" since I am confident that no one believes in unrestricted action. Mr. Kneipp's idea that "liberty of judgment and action" is something new in the Forest Service calls to my mind the instructions given by a Supervisor in the old Land Office days to a Ranger who, having just received his appointment, was seeking instructions for the summer. "What does your appointment say you are?" asked the Supervisor. "Why, a Ranger," replied the new appointee. "Then go out and range," was the reply.

I remember years ago when I received my appointment as a Forest Assistant I was instructed to go to Cody, Wyoming, and await the arrival of Inspector Olmsted. I went, stayed a year and a half, and Olmsted has not been there yet. I found work there to do and did it while waiting Olmsted's arrival. In later years came assignment to District 6 under E. T. Allen. Allen's policy in handling men was to throw them on their own resources, give help and advice, and judge their work by the results. Trained in such a school I naturally followed the same idea, so I say, judging from my own experience, "liberty of judgment and action" is not new in the Forest Service, but rather a fundamental principle of its early organization.

To come to "Authority" - Mr. Kneipp says that "official authority * * * * is nothing more or less than the right of decision as to whether, when, and how certain things should be done." I quite agree with him that if "properly exercised" it "should afford no grounds for resentment." But it is the manner of exercise of authority that causes the trouble, particularly as to "how" things should be done. The "whether" should and does give rise to but little argument. The "when" is a trifle more open to argument, while the "how" - there is the bone of contention. There is a place where "liberty of judgment and action" butts up against "authority." And what is the answer? To my mind it is the part of "authority" to put over to "liberty of judgment and action" that the "how" which it insists upon is based not on the arbitrary exercise of "authority" on the part of the one higher up but upon twenty years of experience of the organization as a whole.

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## FOREST PROTECTION WEEK APRIL 21-27 - IDEAS WANTED

By Miller Hamilton, Washington

The week of April 21-27 inclusive has been decided upon for this year's Forest Protection Week and the recommendation of these dates forwarded by the Forester to Secretary Wallace who, if he approves, will ask President Coolidge to set aside the week by proclamation.

Ideas are wanted concerning the observance of Forest Protection Week from the Service as a whole as well as from individual members. The Service Bulletin wants to receive their ideas and intends to devote a good many pages during the next few months to the discussion and exchange of the ideas andplans sent in by members of the Service.

For example, we already know from our past experiences that Supervisors and Rangers accomplish excellent results by talks to schools and clubs in their Districts. We know also that in the cities the District Foresters and their staff seize upon every opportunity to appear before organizations of every sort. The daily press, the magazines, farm journals, the radio - all are used extensively in spreading the gospel of Forest protection. Ministers, teachers, bankers, merchants, and all others who come in contact with the public also offer splendid channels through which to spread our message. Pictures and exhibits likewise form an important part in our program.

But the particular ways in which to secure the best brand of cooperation, the best way to frame our press and magazine articles, and the best way to plan exhibits are matters on which you are cordially urged to express your opinion.

We are going to make the 1924 Forest Protection Week a success from every standpoint. Remember, Forest Protection Week is a Service affair and not an exclusive party for PR girls and boys.

Let's have your ideas now.

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## WASHINGTON NOTES

Check! The plot noticeably thickens. Oh, quite so, for with only one more week of the Washington Office Chess Tournament still remaining the beetle-browed athletes of the checkered field are visibly weakening beneath the terrific strain.

It is, for instance, unofficially reported that Carter, who is but one-half point behind the leaders, has approved letters on two occasions without change of jot or tittle. More accurately, perhaps, one should say without change of word or comma, since there were neither jots nor tittles in those letters. Then, too, McGowan was seen working at his desk recently as late as ten minutes after quitting time. These things, dear reader, these things, be passing strange.

But as we go to press four of the eleven contestants are closely bunched - Burkholder 7, Gill 7, Carter 6½, McGowan 6. So it is still upon the dimpled knees of the gods as to who will win the crocheted hot water bag.

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Fordyce Writes on Fourt Glacier Trip: The lead article in the January number of the NATIONAL SPORTSMAN MAGAZINE is by C. P. Fordyce and contains an account of the expedition which went to the Fourt Glacier in Wyoming.

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Prizes Offered for Fire Prevention Pledges: Prizes totaling $25 will be offered by the New York State College of Forestry in a contest for the best set of rules written in the form of a pledge on the duties of those who enter the forest for pleasure or business with regard to the handling of fire, such as burning matches, cigars, cigarettes, pipe tobacco and camp fires, and the discovery of fires set by others.

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## FOREST PRODUCTS LABORATORY

Utilization of Forest Products Important as Timber Growing: Colonel Greeley indicated his opinion of the position of timber utilization in a forestry program when he said at the General Standardization Conference: "It is very much of an old story to say that the Forest Service and the Department of Agriculture have always regarded the development of greater economy and greater efficiency in the use of the products of our forests as standing on all fours with the growing of timber as part of a general conservation program. For many years our organization has been conducting various lines of industrial research, looking towards the saving of waste and the betterment of manufacturing methods and processes in the utilization of our timber; and investigations in the standards of lumber grades and specifications, because of the far-reaching importance of that development, have necessarily had a pretty large place in our program of industrial research."

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## FOREST EXPERIMENT STATIONS

Cooperation: An agreement has recently been signed by which the U. S. Bureau of Entomology, the University of Minnesota, and the Lake States Forest Experiment Station will work together in more extensive investigations of forest insects in the Lake States as a basis for their control. Briefly, it provides that the University of Minnesota will

furnish office and laboratory space and equipment. The Bureau of Entomology will select a specialist in forest entomology, who will be assigned to the University Agricultural Experiment Station as collaborator in charge of the Lake States Field Station of the Division of Forest Insects, and will provide $500 for the support of the work to July 1, 1924, and $2500 for the succeeding fiscal year. The investigations shall be planned, approved, and conducted jointly by the three parties to the agreement. With the precedent of the enormous damage done to the tamarack by the larch sawfly and to the spruce and fir by the spruce bud worm and the recent appearance of serious infestations of the jack pine sawfly which threatens to wipe out forests of that species in the region, this start in a cooperative attack on the problems involved is most opportune.

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## DISTRICT 1 - NORTHERN DISTRICT

Land Exchanges: The Secretary has approved land exchanges on the Coeur d'Alene and St. Joe Forests by which the government secures 1040 acres of cut-over land, most of which is in the white pine type. All of this land is well stocked with young timber from 5 to 10 years old. It includes nearly three-fourths of a million feet of sawtimber, about one-half of which is white pine, situated on a driving stream and within one-eighth of a mile of a projected railroad. In exchange for this, the owners of the land secure stumpage on the Uranus Creek sale on the Coeur d'Alene Forest, and it is estimated that the stumpage from four and a half acres will be sufficient to pay for the entire 1040 acres. In other words, the government is giving the merchantable timber on one acre of land which it retains for future crops for 231 acres to which it secures title to the land as well as the timber. The public's interests seem to have been well provided for in this exchange.

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### A THOUGHT FROM "TELEPHONY"

Jones has one dollar,
Smith has one dollar,
They exchange dollars,
Then Jones has one dollar and Smith has one dollar.

But if Jones has one idea
And Smith has one idea,
And they exchange ideas,
Then Jones has two ideas and Smith has two ideas.

The Bulletin is the medium for exchange of ideas. Use it! --Ed.

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## DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

Investigative Committee Meeting: The District Investigative Committee recently met to discuss the research program for the coming field season. The committee consisted of Mr. Bates of the Experiment Station, Supervisor Hilton of the Medicine Bow representing the Supervisors, the District Forester and members of the offices of Forest Management and Grazing.

The existing projects were reviewed and many new studies were proposed for 1924. One of the most important new ones is the securing of growth data, principally through increment borings, for use in the preparation of management plans. Since management plans will be made for practically all the Forests during the next year, it is very urgent to have the most reliable growth data possible for use in preparing these plans. The next most important study proposed is that of establishing reproduction plots to determine the effect of grazing upon reproduction. There has been a feeling that the lack of reproduction in the yellow pine type in southwestern Colorado is due to grazing. It is also necessary to determine the effect of sheep upon reproduction in the Black Hills and Harney Forests, particularly since there are demands for the admission of large numbers of sheep to the limestone type. Plots of this character will also be established on the Pike, Hayden, Medicine Bow, Routt, and Gunnison Forests.

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## DISTRICT 3 - SOUTHWESTERN DISTRICT

This Year and Last in Fire: There were 522 forest fires in District 3 during 1923 against 899 for 1922. Of the 522, 281 were due to lightning and therefore unpreventable. Camp fires were responsible for 66 and smokers caused 108. Railroad engines set five and fourteen came from brush burning about ranches. Cattlemen permitted two branding fires to escape and lumbering operations are blamed for twenty-two. Causes for seventeen fall under miscellaneous and seven are charged to incendiarism. Class C fires numbered 77 and Class A, 281. About two-thirds as much National Forest land was burned over in 1923 as in 1922 and man-caused fires ran behind by 101. There were no large fires on National Forest land in the district, although two fires on private holdings within forest boundaries spread from small fires that had been once controlled and covered extensive areas. Forest officers assisted in the final suppression of these and no National Forest timber was destroyed.

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The Annual Report Covering Recreational Use of the National Forests compiled for the calendar year of 1923 shows for the District a total use by:

| | |
|---|---|
| Special Use Permittees and Guests | 2,561 |
| Hotel and Resort Guests | 51,664 |
| Campers | 34,298 |
| Picnickers | 43,126 |
| Transient Motorists | 379,274 |

using the various modes of transportation as follows:

| | |
|---|---|
| Automobiles (exclusive of stage lines) | 495,278 |
| Railroad, trolley and stage line | 9,765 |
| Hikers | 797 |
| All others (wagon, horseback, etc.) | 5,093 |

The grand total for the District of all kinds of visitors is 510,933. This total does not include all of the through automobile tourists passing through the Coconino. If this were added the grand total would be about 670,000 for the District.

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## DISTRICT 4 - INTERMOUNTAIN DISTRICT

On This Fee Business - Col. Greeley's Stand: The Service has laid out a reasonable course in this matter with the purpose of being mutually fair to the public interests and to our range users, and with special consideration of the financial depression which still exists in the livestock business. The Forester regrets the attitude of some of our friends in the livestock industry who are disposed to abandon the well-tried method of cooperation with the Forest Service on these questions and to appeal to Congress for special legislation. It is his opinion, however, that is, of course, the right of anyone who feels that his interests are being injured, and he states that he is content to submit the issues to Congress on the fairness of our program as compared with the fixing of grazing fees by cost of administration or any other policy that may be proposed.

Above all, Col. Greeley states, the Forest Service has in this controversy only the friendliest feeling toward the livestock producers. We recognize our responsibility to them no less than to the general public. It is not easy to find a satisfactory meeting ground upon which these two responsibilities can be harmonized. But to do that will be one constant endeavor within any limitations that Congress may prescribe, whether they are drawn in the interests of the range users or from the standpoint of the element which advocates an immediate increase in grazing fees. Col. Greeley doubts very much whether any legislation will be enacted on this subject. He believes that in the long run the wisdom will be seen for having an administrative matter of this kind in the hands of the administrative agencies; and that in the end the question will be settled by the Service itself in cooperation with our grazing permittees.

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## DISTRICT 5 - CALIFORNIA DISTRICT

Shasta Plantations: Some encouragement may be gleaned from the progress reports on the Shasta yellow and Jeffrey pine plantations which were established from five to twelve years ago. These reports indicate, however, that we have much to learn with regard to planting sites, age, and conditions of stock and planting methods before we may expect to attain successful results.

Most of the planting stock used has been one year in the seedbeds and one year in transplant beds. It appears that stock carried two or three years in transplant beds has proved to be less satisfactory than the 1-1 stock. The spacing has been chiefly 8 x 8.

The most successful of the early plantations comprises an area of 5 acres. This planting was done in 1911 when 540 yellow pine plants (1-1) were set out. Subsequent examinations gave the following results:

| | | |
|---|---|---|
| 1912 ..... | 440 | trees |
| 1913 ..... | 285 | " |
| 1914 & 1915 ..... | 243 | " |
| 1921 ..... | 126 | " |
| 1923 ..... | 125 | " |

These trees are now from 3 to 7 feet in height and are growing vigorously.

One striking thing shown by the examinations is that we may expect a continuing loss for a long period after planting.

Four of the plantations have only 12 or less trees per acre. Five of the largest of these plantations contain averages of from 40 to 90 trees per acre, while three have from 120 to 225 trees per acre.--C.E.D.

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## DISTRICT 6 - NORTH PACIFIC DISTRICT

Getting Publications to Public: During the Pacific International Livestock Show in Portland some 5600 pieces of Forest Service publicity material were distributed. The Mt. Hood folder and the D-6 windshield stickers led in popularity, 1500 of the former and 1000 of the latter being given out. The Columbia, Umatilla and Cascade folder maps were the most popular map folders. Eight hundred copies of Government Forest work and 100 Forests and Forestry in U. S. were distributed.

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Improving Each Shining Hour: Twenty-six Forest officers in D-6 on twelve different Forests and three in the District Office took 29 different courses in home study during the fiscal year 1923. Studying was not confined to any one class; among those taking courses were 13 Rangers, 6 Forest Examiners, 3 Deputies, 3 Clerks and one Superviser.

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The Society of American Foresters, North Pacific Section, held an open meeting or smoker in December at the University Club. Forest Examiner Hanzlik spoke on "Forestry in Sweden," and showed some motion pictures of Swedish logging methods and Swedish forests. Hanzlik returned in August from a year spent in Sweden as a fellow of the American-Scandinavian Foundation, which annually awards scholarships to American forestry students in exchange for an equal number of Scandinavians who study forestry in the United States.

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## DISTRICT 7 - EASTERN DISTRICT

General District Meeting: Supervisors of District 7 will assemble Sunday, February 11, at Natural Bridge, Virginia, for the first general district meeting in two years. In anticipation of increased activity in land purchases next fiscal year the first two days of the conference will be devoted wholly to acquisition plans, policies and procedures. During the remainder of the week, operation, management, public relations, and grazing will all have their day in court. District Forester Reed and his assistants will be in attendance throughout the week, while Messrs. Sherman, Kneipp, H. A. Smith, Barnes, Eldredge, and possibly others of the Forester's office, will spend a day or two at the meeting.

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# Service Bulletin

U. S. FOREST SERVICE

(Contents Confidential)

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## ORDERS IN THE FOREST SERVICE DEMOCRACY

By Elers Koch, D-1

Mr. Kneipp's articles on "Authority" and "Orders" in recent issues of the Service Bulletin have probably made many of us think over how we give and receive orders.

To my mind the democracy of the Service does not rest in the fact that orders are not generally obeyed, but that a Forest Service man does not and should not accept without a comeback an order which he believes with good reason is wrong or inadvisable. A man who won't come back may make a good private in the army, but he hasn't got the stuff for a Forest Officer. We don't want any unquestioning obedience "Theirs not to reason why, theirs but to do and die" kind of stuff in the Forest Service. On the other hand, after a man has come back and stated his views, if the superior after reviewing the situation still persists in the original order, it is up to the subordinate to accept the order and carry it out fully and cheerfully. If it is wrong the superior takes the responsibility.

One factor which is frequently overlooked in comparing the Forest Service with other organizations is the fact that our men are dealing with natural conditions and the forces of nature, and the said natural conditions are spread over 180 million acres of mountain and forest.

A superintendent of a factory can issue positive orders as to how and when certain things should be done because he has the whole situation, so to speak, under his hand and knows all the circumstances and probable contingencies. On the National Forests, owing to the extreme number of variables and the difficulty of knowing all the circumstances, an executive officer has to be very guarded in the first place in issuing categorical orders, and furthermore he has to expect that circumstances may arise when his subordinate will modify or disregard such orders if they are issued.

A ranger tells his foreman to build a fire line up a specified ridge in the face of an approaching fire and backfire the line at 5 p.m. During the day the wind whips a spotfire back of the ridge. If the foreman is any good he is going to use his own judgment and disregard the ranger's orders if the changed circumstances warrant it. But he has to justify his action by results. If the ranger comes back and finds the foreman used bad judgment in abandoning the line he is probably going to give him the devil for it. But, on the other hand, if abandoning the line was clearly the thing to do and the foreman sticks to the original line and says, "You told me to put it here," the ranger is equally going to give him the devil for being a bonehead and not having the courage to disregard an order.

I believe this illustrates the difference between Forest Service methods and military discipline. I don't know a lot about military orders, but my impressioniis that if the subordinate in the army could not reach his superior to get a change of orders he would be expected to complete the fire line as specified, even if he knew it to be wrong. A Forest officer should not be expected to obey orders blindly, but, of course, has to justify his departure from them or take the consequences.

One more point and I am through. Mr. Kneipp deprecates the idea of a superior "suggesting" or proposing anything to a subordinate instead of saying "you do it this way." Isn't this due to the fact, as previously stated, that we are dealing largely with the conditions of nature with infinite variations and the man on the ground has to be given considerably more leeway in time and methods of doing things than is required in a factory or an office? Also, we are doing new things which none of us knows all about. If the superior is too ready to say "this is the way and the only way to do this" he cuts off experimentation in something which he probably doesn't know the last word on.

In some lines we have reached definite and final conclusions which are generally accepted. By all means let us have orders, instructions, and standards for these things, but don't let's be in too big a hurry to issue the last word in the form of a signed and sealed order on matters which are in the development stage.

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## WHY IS IT?

By Evan W. Kelley, Washington

In a recent issue of the Service Bulletin, Supervisor Cunningham of the Sequoia National Forest had a story about a lady whose nerves were unstrung and shattered as a result of riding over a Forest Service mountain road which, unless a steel tape registers incorrectly, even more nearly approaches an 11-foot standard than one of 9 feet. As a matter of fact, long stretches of 12-foot width may cause even a conservative-minded inspector to wonder if Mr. Cunningham's 12-foot objective were not, in a large measure, already accomplished.

The story of the good lady's discomfort was quite appealing, and in sympathy my old fellow supervisor literally stamped his pen with agitation when writing about it. To support his contention that a 9-foot road is a risk to life, limbs and cars (and in regard to the particular road in question he must also include in the unsafe class roads 10 feet or 11 feet wide) he avers that roads less than 12 feet wide fail to provide requisite safety. How much wider would the road need to be to insure safety from the nervous lady's point of view?

However, that is not the principal question at point. The question is why does a simple case of nerves provoked by a ride over a relatively narrow road arouse enough interest upon the part of steady-minded men to cause them to write at length about it, whereas the case of three major accidents involving a trio of cars plunging off a broad highway within ten miles of one another, one Sunday night in 1922 on the Lassen Forest, brought forth not even a scratch of a pen concerning reasons. Every one of the accidents occurred at wide turns, one of which, as I recall it, was at least 20 feet from bank to bank.

Passing automobilists in viewing the upturned wrecks beside this California State highway commented "Too much speed." Does anyone question but that wide roads do invite speeding? Is it not true that they do? If wide roads bid the speedsters on at a pace that wrecks and kills, shall the Forest Service fool itself into building wide roads to secure safety? Should not its members look for, listen to, and weigh facts as presented by daily occurrences?

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## POLICY AND ORGANIZATION

### Report of District Investigative Committee, D-3

The annual cut of lumber for Arizona and New Mexico has approximated 200 million feet for the calendar years 1920 to 1922, inclusive. A recent estimate by Forest Management places the probable annual cut by 1927 at over 300 million feet. It is recalled that the Capper report estimated the possible sustained yield under management from these two States at approximately 350 million feet, not much in excess of the probable cut within three or four years. This cut, of course, is not properly distributed. Some of it is bunched in localities which will eventually be cut out. Somewhat less than one-half of the present cut is National forest stumpage, but this proportion will rapidly increase. The National Forests have 64 per cent of the standing sawtimber in these two States. National Forest, Indian reservation and State-owned timber, all of which is fairly certain of being handled under approved forestry practice, constitutes 85 per cent of the stand. It is believed that by 1927 the rate of cutting in relation to the capital stock of timber will be greater in District 3 than in any other District with the possible exception of 7, if in fact it is not so now. The next few years should see a big development in the use of minor forest products, the manufacture of naval stores, etc.

The bearing of stock grazing upon the practice of forestry in the Southwest has been recognized, and the present sheep exclusion policy on cut-over areas is a recent development in this connection. We are appreciating, however, more and more the tremendous bearing which grazing has upon maintaining forests in a high state of productivity.

We have been concerned with reforesting our cut-over lands. It is time to turn our attention to the vast areas of devastated land, particularly at the higher elevations in the spruce and Douglas fir types. These areas have resulted largely from severe burns many years ago. Much of them could be reforested by natural methods with more restricted grazing use and scientific control. Such forests would be of immense value not only for the production of timber, but perhaps even more as watershed protection, since they occur on the headwaters of many of the most important streams. Many parks within the yellow pine area give promise of forestation if the grazing can be handled with this as a major objective.

Watershed protection, which has always been recognized as a major function of forests, is of special importance in a semiarid region like the Southwest. The immensity of this problem is now being realized and its solution is receiving every possible attention. It is believed that from this point of view our administration is not by any means 100 per cent efficient so far. The vast amount of erosion which has taken place in the last fifteen or twenty years is evidence of this fact. It is high time that this feature of forest administration be taken hold of in a more effective way. In this connection, stock grazing is undoubtedly the greatest controllable factor of influence.

The foregoing facts which reveal a high degree of intensity in forest use, a close relation between the production of timber, grazing, and watershed protection, considered in connection with the well-known handicaps to silviculture and growth of southwestern climatic conditions, are sufficient without any further elaboration to reflect the scope and variety of the research problems which confront the Forest Service in District 3.

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## THAT DRAINAGE QUESTION

By H. O. Stabler, D-7

Roads, be they narrow or wide, need adequate drainage. Perhaps proper drainage represents 75 per cent of the problems of constructing the average road. How to get it is the bone of contention among engineers, near-engineers and laymen. Many think they have solved all drainage problems by the construction of an inside ditch. The inside gutter is a popular conventionality, but it, if necessary at all, is only part of the drainage system. The water must be got into it and, more important still, out of it.

All of us have seen roads badly gutted as the result of rut wash - rut wash due to a lack of cross drainage and no or improper maintenance - and parallelling the ruts a perfectly good side drain standing high and dry, a monument to conventionality and performing just as much service as the rowelless spurs of the aviation officer in the cockpit of a Martin Bomber. The officer might fall on a horse, and that is about as probable after all as the chance of the rut water getting into many of the overly advertised inside ditches. Of course the ditch has its proper place, just as spurs are needed by the cavalry officer, but it is my unexpert experience and observation that our narrow forest roads, given proper soil conditions, (we have some soils in District 7 that are eroded by a heavy dew), can be and actually are adequately drained without the inside gutter.

In my judgment, excess width of roadbed and use of expensive but nevertheless fanciful forms of drainage are too often substituted for common-sense workmanship on narrower roadbeds, so designed that traffic cannot slip off, equipped with adequate drainage that will drain, and then actually maintained by persistent execution of a well-thought-out plan of maintenance. Let us first widen our viewpoint and approach this mooted question with open (and well-drained) minds.

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## WASHINGTON NOTES

Pocket Manual of Georgia Trees: "Common Forest Trees of Georgia," a handbook prepared by W. R. Mattoon, with the assistance of Professor T. D. Burleigh, Head of the Forest School at the Georgia State College of Agriculture, has recently been published by the Extension Division of the college. The cuts of the hardwoods are all from drawings by Mrs. A. E. Hoyle of the Branch of Engineering.

This is the ninth sister in the "forest-tree-guide family." The Georgia manual is the largest of them all, with descriptions of eight more trees than any other book, or a total of seventy-eight species. Each is accompanied with an outline figure of the leaf, fruit, and winter twig, and, in the case of some, also the flower. The other tree guides, likewise largely the result of Mr. Mattoon's effort, have been published by the State Foresters of Maryland, Virginia, North Carolina, and Tennessee, the Department of Public Instruction of Delaware, the State Commissioner of Agriculture of Kentucky, the Extension Service of Clemson

Agricultural College, South Carolina, and the American Forestry Association, whose tree-book describes trees of the District of Columbia.

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Writing for the Reader - Not for the Files: The following is an extract from a personal letter from C. H. Shinn, whose newspaper articles have been accepted and published to an unusual degree:

"And now of Forest literature of which you once wrote me - the heart of the whole game seems to me this - visualize the busy man who will look at your headline and either go further or turn to something else. Like him, believe in him, think of him as a friend or neighbor. Then you capture him.

"Dear old Dr. Hilgard, my Chief in the U. S. Agricultural work, discovered that I could, as he said, 'translate technical stuff into the vernacular.' Dozens of times I took his scientific papers, which were never 'copied' and told the thing over so that the Chronicle used a column or so - but I had to sit down with dictionary and encyclopedia, etc., and get myself within the circle of Dr. Hilgard's ideas before I could write a line. Then I took notes. Lastly I put his scientific address out of sight and told the yarn. It was lots of fun."

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Fire Insurance for Sheep: In the annual grazing report for the Columbia Forest, Supervisor Wright reports an interesting piece of information for Supervisors having large areas of burned over lands where fire hazard is still high. The owners of three bands of sheep to be grazed in the Yacolt Burn took out policies insuring the sheep for a full year. The premium on the policies, each for $15,000, was $140. At the end of the grazing season the owners secured the cancellation of the policies and each received a rebate of approximately $100, thus making the cost of a $15,000 policy for 3 months approximately $40.--E.N.K.

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## FOREST PRODUCTS LABORATORY

Engineers Should Study Forest Waste Question: The interest in saving wood waste taken by President John W. Blodgett of the National Lumber Manufacturers' Association is indicated in the following remarks from a recent speech made by him to the American Society of Mechanical Engineers: "I now bring you to a situation that should challenge every drop of professional fighting blood that you have in your veins." He then tells of the annual wood waste of nine billion feet valued at $200,000,000.

Referring to the desired need for information as to whether the inch board or some other thickness is best for a well-built home, under discussion at the Standardization Conference in Washington, Mr. Blodgett said: "Therefore, it was to the everlasting credit of the lumber industry that they put this question up to the greatest authority in the world - the Forest Products Laboratory."

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## DISTRICT 1 - NORTHERN DISTRICT

Quantity Production is a Failure: Almost anything can be proved or disproved by statistics. They are as convincing as a good oil-stock salesman and more dangerous than dynamite. Still they are too fascinating and in some cases too important to be ignored.

Statistics on the cost of held fire line have been compiled in D-1 for four years. If the statement in the head line above is narrowed down to the discussion of chains of held fire line, perhaps it is in line with the facts. The tabulations below are interesting and expressive of the facts. Just how to make them of practical use is a topic open for contributions. Perhaps they do indirectly serve a useful purpose in inducing us to think about the cost of held line and about methods by which it can be reduced.

| Cost per chain of Held Fire Line 1923 By Regions | | | Cost per chain of Held Line D-1 By Years | | | | |
|---|---|---|---|---|---|---|---|
| Region | Man Hours | Dollars | Year | Chains | Man Hours | Dollars | Cost per Man hour |
| Eastern Mont. | 0.4 | 0.84 | '20 | 21293 | 12.6 | 11.19 | 89¢ |
| Cont. Divide | 6.0 | 3.56 | '21 | 20870 | 7.9 | 6.21 | 79¢ |
| West. Mont. | 5.8 | 3.56 | '22 | 16712 | 9.1 | 6.21 | 68¢ |
| North Idaho | 7.1 | 7.00 | '23 | 4563 | 5.8 | 4.57 | 79¢ |
| Central Idaho | 4.2 | 2.38 | | | | | |
| D-1 | 5.8 | 4.57 | | | | | |

In a few details the figures are sufficiently consistent to indicate the trend of facts. During each of the years the cheapest fire line has been built in the Eastern Montana region, the most costly in the North Idaho region. Also the smallest number of chains is consistently in the Eastern Montana region and the greatest number in North Idaho. The lowest cost per chain reported by an individual Forest (34 cents) was in Eastern Montana and the highest ($24.95) was in North Idaho.

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## DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

Stock Show Week in Denver This Year; as usual, was attended by practically all of the organizations in the State from hardware men to county commissioners. It is the favorite time for people in various parts of the State to take up with the District Office grazing complaints and requests for road projects.

District Forester Peck appeared before the meeting of county commissioners and the Colorado Stockgrowers Association for short talks.

The Colorado Stockgrowers Association went strongly on record against any possible increase in grazing fees. They endorsed the principle of basing the fees upon the cost of administration and voted approval of a memorial requesting Congress to pass a law requiring the Forest Service to regulate grazing fees on this basis. This memorial is to be telegraphed to the Colorado delegation at Washington. The association also passed a resolution, after some debate, expressing appreciation of the consideration given by the Forest Service to stockmen in various ways. For these small favors, let us be grateful.

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## DISTRICT 3 - SOUTHWESTERN DISTRICT

New Promontory Butte Tower: The Sitgreaves Bulletin announces that the 110-foot steel lookout tower that is to replace the famous old wooden tower on Promontory Butte has been shipped from Chicago. This will be the highest lookout tower in District 3 and possibly the highest in the entire Forest Service.

Note: The old wooden tower was built by Charles H. Kissan back in 1912 or 1913. It was a fine piece of workmanship and good engineering, with a remarkable lightness and grace of appearance. To climb it has daunted many a Forest officer. On the other hand, Arizona flappers have scaled its dizzy height, and at least one youthful fire guard shinned up the flagpole on top to untangle the flag.

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Our Oldest Forest: The Pecos Division of the Santa Fe has just celebrated its 32nd birthday - an age greater than that of any other Forest in the District. As the "Pecos River Forest Reserve" it was set aside on January 11, 1892. Next in years is the "Grand Canyon Forest Reserve" created in 1893, the San Francisco Mountains in 1898, and the Black Mesa in 1906. None of the original four names survive as the name of a National Forest to-day.

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## DISTRICT 4 - INTERMOUNTAIN DISTRICT

Timber Sale Business Increases: The timber sale business during 1923 on the National Forests of this District was extremely satisfactory. Sales totaling 181,650 thousand board feet were made during the year. This was the largest amount of timber ever sold in one year since the organization of the Forest Service, with the exception of 1920 when the amount slightly exceeded two hundred million board feet. While the large amount sold in 1920 was due to a single exceptionally large sale in western Wyoming, the amount sold this year indicates a more normal growth in the lumber industry in this region as the sales are not greatly concentrated in any one place. The widespread development is indicated by the number of different forests making exceptionally large sales.

The lumber industry is looking forward to a period of expansion in this region, and it is to be expected that this amount will be increased to a very marked degree in the next few years. A number of timber sales are now being negotiated and it is believed that 1924 will show no slump in the National Forest timber sale business in this region.

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## DISTRICT 5 - CALIFORNIA DISTRICT

"O, DEATH, WHERE IS THY STING?" It begins to look as though a lot of these chronic moaners are right after all. They insist that weather conditions are changing permanently, that the old globe, at least hereabouts, is getting colder and drier.

This year certainly corroborates all they say: cold, no snow, no rain, looks pretty dire, country going to the dogs, Republicans in office - wotta country!

Are You a Linguist? If so, try your hand at this, which is a letter received at the District office in Portland on November 25:

"Dear Sir:

Olkaa hyva ja lahettaka minnulle Oregonian valtion maantickartta.

Osoittella,

Mrs. Simon Parkaniema,

Astoria, Oregon."

Our guess was that the lady wanted a copy of our new Oregon Road and Recreation Map; in any case, that is what we sent her(

# Service Bulletin

U. S. FOREST SERVICE

(Contents Confidential)

Vol. VIII, No. 8. Washington, D. C. February 25, 1924.


## FOREST SERVICE NOT RESPONSIBLE FOR GRAZING FEE

By Will C. Barnes, Washington

In order that Forest officers may be fully informed as to the history of the increase in grazing fees, the following extracts from the printed hearings before the House Agricultural Committee, December 17 and 18, 1919, are given:

The Chairman (Mr. Haugen of Iowa, page 545), addressing Mr. Potter:

"Congress has been criticized for not charging a reasonable, fair rate for grazing. The present rate does not seem to me fair and just; it seems to me that the rate of $2.26 for grazing for three years a steer that sells for over $100 is not a fair and reasonable charge. I do not bring this up here to embarrass you or anybody else in the Department. We ought to have the facts as to the amount charged and an estimate as to what would be a reasonable, fair charge."

The above statement indicates the general attitude of the Committee. In Mr. Potter's reply to the Chairman he said, among other things:

"We have felt that stopping damage to the Forests, improving conditions on the watersheds, bringing about orderly use of the ranges, and protecting settlers in establishing their homes was of more importance to the Nation than the number of dollars collected in fees, and I believe that this should continue to be our ideal."

Mr. McLaughlin of Michigan: "The Committee has been severely attacked, and the policies of the department have been severely attacked, on the floor of the House, because the charge made by the Federal Government for the use of grazing land is only about one-half the charge made by States and private interests. We wish to be able to answer that criticism if we can."

The Chairman asked Col. Graves "If the fees should be raised to the commercial value would the Forest Service have any trouble in leasing the ranges in the Forests?"

Col. Graves replied: "It would be quite possible to put the forest lands under competition and lease them to the highest bidder. I question whether it would be a desirable thing from the standpoint of a large number of small settlers who constitute the greatest number of our permittees."

The Chairman: "We might exempt the settlers if we are going to run a charitable institution, but I am not so sure that the forests should be made into a charitable institution."

Following this, Mr. Tincher of Kansas stated that in 1919 the Government grazed about 2,233,000 head of horses and cattle on the National Forests, "for which had it (the Government) charged the price paid to anyone but the Government for the use of pasture lands, the Government's income would have been increased over $4,000,000." Continuing the discussion, Mr. Tincher said:

"Why should we present that to any class of people? The men who are paying $5 a head for (grazing) their cattle at other places are helping to pay the taxes to maintain this appropriation. Why should this money practically be given to the people who graze these cattle?"

Subsequently Col. Graves, on pages 606-613, stated that the Forest Service was then issuing 5-year permits and, in all fairness to the stockmen using the National Forests, no changes in grazing fees should be made until the 5-year permits expired in 1925.

The Chairman replied: "Of course, nobody wants to repudiate a dontract. If a contract was made, that should stand. But, as you recall, when we started on this forest proposition, it was generally understood and the people were led to believe that it would be made self-sustaining in a very short time."

On February 9, 1920, when the Forest Service section of the Agricultural Appropriation Bill then before the House was reached, the following proviso had been inserted:

Page 2671. "General Expenses, Forest Service:**** Provided further, That hereafter the charge for grazing permits upon each of the National Forests shall be not less than the appraised value of pasturage upon such National Forests as determined by the Secretary of Agriculture from time to time, but at least every five years, beginning with the calendar year 1921, upon the basis of the commercial rates charged for pasturage upon lands of similar character, taking into account the advantages and disadvantages of the respective areas:****

Objected to on a point of order by Congressman Hayden of Arizona, this paragraph was stricken out.

On February 10, 1920, the bill was again before the House, and the following amendment was offered and stricken out on a point of order:

February 10. (Page 2717). Amendment offered by Mr. Haugen:

"Provided further, That no part of any appropriation in this act for the Forest Service shall be expended on any National Forest in which the fee charged for grazing shall be at a rate less than 300 per cent of the existing rate."

Later, Mr. Anderson of Minnesota, Vice Chairman of the Committee, offered the following amendment which was also stricken out on a point of order:

"Provided further, That no part of any appropriation in this act for the Forest Service shall be expended on or in connection with any National Forest in which the fees charged shall be less than the appraisal value of such grazing as determined by the Secretary of Agriculture."

When the specific appropriations for each Forest were under consideration, Mr. Anderson (page 2726) offered a number of amendments along these same lines which were rejected on points of order. Then the Forester promised Congress that a range appraisal would be made and the results placed before the Committee. This has been done and the rest is, as the Greeks say, "In the laps of the gods."



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## FIRE PREVENTION WEEK?
## NO! IT IS
## FOREST PROTECTION WEEK

By Geo. H. Cook, D-3

There is a tendency among many Forest Service people to refer to Forest Protection Week as Fire Prevention Week. Some seem not to perceive a difference between that term and the proper designation. So extensively has the idea spread that by a natural process of reasoning Forest Officers on forests with small fire hazard see little to be done in a Forest Protection Week campaign.

In the minds of people outside the direct association with forests and forestry the impression appears to be so well founded that other forest influences, if known about or thought of at all, are regarded as of minor importance. The picture that seems to present itself when a Forest Ranger is mentioned in print or in conversation is that of a man scanning the landscape to catch the first appearance of smoke, or of a man on horseback riding the ridges in the hope of discovering the little blaze, or of a man with a rake and a shovel trying to circumvent the flames.

Such a conception is well enough as far as it goes, but a mental portrait of a Forest Ranger who only fights fire is certainly out of balance. It is a portrait of a lopsided creature. It is assuredly not the kind of a portrait that should be in the mind of a public that is likely to be called upon to furnish funds for the control of insect infestations or the control of erosion. In addition, the necessity of public sympathy in such matters as the relation of livestock grazing to forest reproduction and the handling of forage as a public commercial resource should be emphasized.

Without question fire is conceded to be the worst of the forest enemies, but it is, of course, not the only foe. Fire has not been exaggerated as a feature of Forest Protection Week, but other matters of protection have been permitted to lag. Fire should be thrust into the public mind year after year until its very heat arouses the public conscience into a demand for nation-wide cessation from the wastage of man-caused fires. Along with fire, however, should go, in relative importance, the knowledge that destructive lumbering, overgrazing, insects and disease waste the timber resource and turn productive lands into deserts just as effectively as do forest fires.

The picture of a Forest Officer that comes to the mind of a person who is reading a news story or listening to an address or who sees a Forest Service uniform should be that of a man who is supervising the protection of the timber of the nation against all its common enemies. Forest Protection Week has been well named. In its inclusive sense it will work as well on the soggy forests of Alaska as it will in the powder keg regions of any of the States. If Forest Protection Week of 1924 is to be bigger and better than any previous Forest Protection Week there is a job for every member of the Service on every National Forest and on every Ranger district.

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## WHEN IS A 9-FOOT ROAD?

By V. V. Harpham, Ochoco

I note considerable recent discussion in the Service Bulletin in connection with 9-foot roads; so, if in order, I would like to give my own opinion in connection with this much discussed matter.

I have always felt since the 9-foot road has been standardized that we should not adhere too closely to this standard but make the specifications more flexible - in other words, build a road that will meet the need of the particular locality or thing to be served. My

personal opinion is that the 9-foot road is entirely adequate for ordinary minor road purposes. The driver who cannot keep his car on a 9-foot road would be dangerous to meet in a 60-foot lane and should not be granted a license to operate a car at all. However, in localities where the topography is rough and there is a considerable amount of travel both ways, a wider road should certainly be built. This is why I believe that we should not necessarily think of a 9-foot road when we speak of a minor road.

Make the road adequate for the demands upon it, and if the road is distinctly secondary and built primarily for fire protection purposes the type could be lowered, so far as actual finish is concerned, even from the 9-foot standard. Let us select, if possible, the right location and then build a road that will serve for the present with the idea of making it better as the demand upon it increases, and thus get more mileage for our money.

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## SUGGESTIONS VERSUS ORDERS

By Frank J. Jefferson, Selway

Mr. Kneipp's "Orders" in the Service Bulletin of January 14 invites comment. My experience in the Forest Service does not date to the days of Service Order No. 12 or to the days of "will" and "shall." The Volstead Act has replaced Service Order No. 12. I reserve to myself an opinion of Mr. Volstead; I express my admiration of the master psychologist who substituted the friendly for the peremptory form of command.

It has always been my belief that Forest Service policies in this respect were based upon the premise that its personnel possessed the intelligence and finer feelings which enabled it to recognize and defer to authority, unlabeled, and to appreciate and respond to courteously phrased instructions. It is my judgment that the record of the Service under this policy has demonstrated the soundness of the premise. Also that the psychological reaction to this policy has put over many a difficult job and called forth effort which blunt commands would never have accomplished or inspired. I seriously doubt if any of the "luckless wights" cited would have acted or felt differently under any system of instruction or control. Men are also haled to the guard-house or before a court martial. Is this to be construed as a result of the system of control or is it the result of some kink in the individual which would tangle his feet under any form of control?

The danger of our system developing an organization of "buck passers" seems chimerical. There may be somewhere in a responsible Forest Service position a "buck passer." In twelve years service I have not met him, neither have I heard of him. I doubt his existence. I have seen men step up and take a bitter dose of medicine that they could have sidestepped. I have seen superiors stand by a subordinate and shoulder a load that could have been ignored. Whether the instructions read "you will" or "it is suggested" was not considered. Their purport was understood and tacitly recognized. That was sufficient.

So long as the Forest Service is composed of human beings we will have a few come in who can't measure up to our standard of ethics and who are not amenable to our form of control. This is to be expected and is no cause for alarm. There would indeed be cause for real alarm if the organization lost the fiber of energy, loyalty, and straightforward man-to-man dealing which has been developed in it through sound and sympathetic leadership and became instead a timid group of alibi seekers dodging behind convenient "you wills" and "I dids."

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## WASHINGTON NOTES

California Experiment Station Urged: The establishment of the Forest Experiment Station in California received a good boost when the California Forest Protective Association at its annual meeting in January adopted the following resolution:

"We believe that the possibilities of future forest production in both the redwood and pine regions of California are such as to warrant the location of a Federal Forest Experiment Station in California. Therefore we endorse pending legislation in Congress for the establishment of a Federal Experiment Station to be operated in cooperation with the Forestry Division of the University of California."

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More Good Stories by Mr. Barnes: The lead article in the January number of THE PRODUCER is by Assistant Forester Barnes and is entitled "Game on National Forests." Incidentally, Mr. Barnes has a very amusing article in the January 17 issue of the BREEDERS GAZETTE telling of a survival of the fittest staged between a wild cat and a bulldog.

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News Insects Attack Aspen: The Bureau of Entomology has just reported on some insect specimens sent in from District 2. It appears that these were of a little known species, whose food habits and larval stages were previously unknown. The insect in itself is usually of small moment, but at present is attacking aspen in the District.

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J. C. Roak, Former Supervisor of the Kaibab Forest, writes that he is in the gasoline and oil business in Fairmont, West Virginia. Roak says he feels the urge to get back West every time he sees an old cow along the road.

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## FOREST PRODUCTS LABORATORY

Driving Nails for the Marine Borers: The tedious job of driving over 6,000 nails, spaced one-half inch apart, into four pieces of pine recently fell to the lot of one of the Laboratory workers.

The pieces of wood were 2" x 4" x 24"; iron nails were used for two of them and copper nails were driven into the others. These specimens were sent to Pensacola, Florida, and Gulfport, Mississippi, where they were placed in the water to determine the degree with which these treatments resist the action of marine borers. While laboratory tests indicate that copper solutions are poisonous to shipworm borers and that borers in general object to wood tainted with iron rusts, no definite tests have been made to determine the effectiveness of the nailing treatment, although it has been practiced at times.

As the untreated pine specimens placed in the Gulf waters are completely destroyed within less than a year, next year's inspection will determine whether there is any merit in this method.

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## DISTRICT 1 - NORTHERN DISTRICT

Clearwater Resource Survey is Completed: A final report and complete set of maps of the so-called "Clearwater fire survey" have been received in the District office. In fact, this project has been a very thorough survey of the resources on the burned over portions of the Clearwater Forest. The area burned one or more times in the last fifty years approximates two-thirds of the total area of the Forest. From the discouraging appearance of these vast burned areas, the assumption had grown that there was very little of value left on them. Along with many things which it will accomplish toward better forest administration, the survey brings out the fact that there is a reproduction of timber species on fifty-five per cent of the burned over areas, and that more reproduction will probably appear on some of the more recently burned portions.

The data secured in the survey have already proven to be of very great use in the administration of the Forest. Maps and tabulations secured indicate further improvements and organization required to secure four-hour control, show the grazing resources of the burned over areas, and furnish all of the necessary data for planting plans on the burns. Maps are also available showing the original timber type of the entire area covered and the site qualities of the white pine type, which is the most important timber type involved. The completion of this survey gives the Clearwater Forest more complete data on its resources than have been compiled for any other Forest in District 1.

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D-1 at the Madison Research Meeting: Messrs. Koch, Flint, Weidman and Gisborne are to represent D-1 at the meeting of research and public requirements specialists to be held in Madison, Wisconsin, March 10-22. Koch and Weidman will present papers on public requirements and silvicultural practice for the western white pine and yellow pine regions, respectively, while Flint and Gisborne will argue the pros and cons of fire problems.

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A Meeting of the Montana Forest Advisory Committee, composed of the State Forester and representatives from the lumber industry, the Forest School and the Forest Service, was held in Missoula recently. The matter of leases on State forest land was considered upon request of the State Forester, and recommendation was made to State officials that the usual State term lease for grazing and other purposes should not be granted on State lands which are held for the purpose of forest production.

The committee also gave consideration to the suggestion from the Dean of the Forest School that it act in the capacity of an advisory committee to the Forest School. No final action on this matter was taken.

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## DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

Grazing Fees and Public Range Control: The grazing fee question, as brought out by range appraisal, is having varying effects over the District, in some places causing stockmen to withdraw their agitation for additions to the Forest and in other places having no effect upon their desire for some sort of control of these lands. Recently, resolutions were passed by the Delta County Association asking for large additions to the Uncompahgre Forest. Stockmen in the Gunnison locality are also

persisting in their desire for some regulation of the public domain, but they specify that this control should be under the Department of Agriculture instead of the Department of the Interior.

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Another Planting Record Broken: According to the Forester's report recently issued, the total acreage planted on the National Forests in 1922 was 7,073 acres, of which 4,115, or 58%, was planted in D-2. This District received 40% of the total planting allotment during the past fiscal year. The record for the calendar year 1923 is even better, according to data recently sent in to the Forester with the annual statistical report. The total area planted was 4,242.6 acres, which is the largest area ever planted in one year in this District. No seeding was done. The Michigan, Minnesota and Nebraska Forests exceeded their authorized acreage with the allotments available.

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Use of D-2 Library: A recent tabulation showing the use of books from the District Library by various Forests throughout the District has shown some very interesting conditions. The average number of District Library books used by the Forests throughout the year was 11. Although the use in general is consistently pretty close to this figure, it was enlightening to note the minimum extreme of two and the maximum of 19, the latter figure applying to two Forests.

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## DISTRICT 3 - SOUTHWESTERN DISTRICT

When Trees Start to Grow in the Spring: Director Pearson of the Fort Valley Experiment Station says that from the records of two dendrographs on yellow pine, one tree began to expand on May 16 and the other about June 1. Both trees had practically finished the season's growth by September 1.

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Falling Trees and Telephone Ties: Ranger H. G. Smith of the Datil has called attention to the fact that not all Forest officers seem to be acquainted with the best measures for preventing the tearing up of a telephone line when snags or trees fall across it. He particularly points out the double-hook method of attaching swinging insulator ties to staples. The insulator is bound in the middle of the tie-wire which then runs in a double parallel strand to the staple - one strand being hooked through the staple from one side and the other strand hooked through from the opposite side. This results in the suspension of the tie from the staple by means of two hooks facing each other through the eye of the staple. The hooks are sufficiently strong to resist any ordinary strain on the line, and, in the event of an extraordinary strain like a falling snag, the hooks pull out without wrecking either the line wire, the tie wire, or the staple. Repairs simply consist in chopping the snag off the line and passing the hooks back through the staple.

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Old Forests: The Pecos River Forest Reserve, created January 11, 1892, stands as the oldest D-3 Forest. Proclamation dates for other old forests established prior to 1900 run like this: Grand Canyon, February 20, 1893; Prescott, May 10, 1898; Black Mesa and San Francisco Mountains both August 17, 1898, and Gila River, March 2, 1899. Several other D-3 forest proclamations followed hard after the beginning of the century.

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## DISTRICT 4 - INTERMOUNTAIN DISTRICT

After A Chunk of the Wasatch: The Brigham Young University of Provo has a camp on the Wasatch Forest behind Mt. Timpanogos. They got to thinking that they would like another piece of land, about 80 acres, but instead of taking the matter up with the Supervisor, they wrote to their Congressman. As a result, a bill has been presented to Congress providing for the purchase of 80 acres of land from the Wasatch Forest. This is a new development and threatens to set a bad precedent. The sale is being opposed by a number of organizations in Salt Lake. The outcome is awaited with interest.

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A Larger Cave: Mr. C. J. Truscott has left for American Fork Canyon to carry out an underground survey of another cave which lies close to the present Timpanogos Cave. According to the general impressions of those who have been in this cave, it must approach very near Timpanogos Cave. If this proves to be so, after a careful survey is made, it will be possible to connect the two caves with little difficulty, thus adding vastly to the size and interest of Timpanogos Cave and the fame of the Wasatch Forest.

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## DISTRICT 5 - CALIFORNIA DISTRICT

Forest Thinning on Boy Scouts' Tract: In speaking before a meeting of Boy Scout Executives a short time ago, Mr. Redington dwelt to a considerable extent upon the ways in which the Forest Service and the Boy Scout organization could cooperate. The Oakland Scout Executive, Homer J. Bemiss, evidently believes in putting words into action, for on the same day he took Mr. Redington to the Scout Camp in Diamond Canyon, showed him areas planted about 20 years ago to Monterey pine, Monterey cypress, acacia, eucalyptus, and an Australian species of Casuarina called "Sheoak" and requested that the Forest Service handle the marking of the trees which should be cut in order to improve the condition of the stands.

Messrs. Woodbury and Dunston recently spent a day marking the trees for an improvement thinning. On an area of about 15 acres about 1,400 trees were marked, or about 20 per cent of the total number of trees. The aim of this thinning was to open the stand sufficiently to bring about maximum wood production.

The Boy Scouts and the Scout Masters will cut the trees and work them up into cordwood. This will afford an excellent opportunity to give the boys practical lessons in forestry and woodcraft.--C.E.D.

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Interesting Special Use Figures: On December 31, 1923, there were 7,536 special use permits in effect in this District; 3,881 or 51 per cent of the total number being summer home permits.

Including summer homes, resorts, hotels, camp grounds, stores and other permits incident to the recreational use of the Forests, a total of 4,360 permits, or 58 per cent of the total, are classified as recreational permits.

The Angeles leads every Forest in the United States, both in number of recreation permits and in total number of permits. This Forest has 2,969 permits in effect, of which 2,600 are for recreational use.

In the total number of permits in effect, the five ranking Forests in order are the Angeles, Santa Barbara, Eldorado, Sierra and Stanislaus. In total number of recreation permits the five leading Forests in order are Angeles, Eldorado, Sierra, Stanislaus, and Sequoia.--L.A.B.

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A New Use for "The Wind River Bible": Here's a new use for a Sears Roebuck catalogue.--The Lassen property cards contain so many odd names of property that it was found almost impossible to tell what they were supposed to be. Supervisor Durbin came to the rescue with the latest copy of the Sears, Roebuck & Company catalogue which proved a valuable asset. Such problems as the difference between a range, a cook stove, and a cook stove - common, or the difference between pots, pans and kettles, and how they can be recognized were solved to everyone's satisfaction. We are glad to report that these catalogues have finally come into their own.

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Seeing the Light: The Westside Lumber Company, Tuolumne, which closed its camps with a cut of 54 million feet during this past year, announces the discontinuance of the use of the high lead in the company's logging operations. The reason for this action is that the high lead does not make for cheapness as against ground yarding, and is too destructive of young timber which the company believes is an asset which should not be destroyed.

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## DISTRICT 6 - NORTH PACIFIC DISTRICT

"Bread on the Waters": The Pacific Logging Congress last fall passed a strong resolution against the use of tailormade cigarettes in woods operations. This resolution was put in the form of a press bulletin, together with 1923 D-6 smokers' fires data, and sent to all newspapers in D-6. Copies were also sent the Forester with the request that they be sent to all leading tobacco manufacturers of the country. The Forester sent these to the Tobacco Manufacturers' Association of New York, the clearing house for all tobacco people, with the request that they be distributed. A reply was received to the effect that such distribution would be made. We may expect some reaction from this, which, of course, was what was intended. If a few manufacturers will begin to stick fire cautions in their cigarette and tobacco boxes the chain will have been started, the ultimate end being to educate the smoking public to be careful with their snipes and stubs in the woods. It's a long way, but the goal is a worthy one.--J.D.G.

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Kill That Cigarette Stub: The Minnesota State Forest Service has recently issued a distinctive poster portraying very vividly the fire danger from a cigarette stub. State Forester Cox writes that cigarette fires are becoming more and more of a problem in Minnesota because of peat land drainage.

## THE LEARNED RANGER

There is a standard District where standard fir trees grow
And other things are standard, except the Hazel Hoe;
The Ranger is a forester, he reads each evening late
To learn the Service policy and keep informed to date.
He studies Forest Management, a science most abstruse
That tells us how the trees should grow and what should be their use;
And Forest Research that proves beyond a doubt
That fir tree seed fall to the ground and--by and by will sprout,
That fires will burn when it is dry, and when it rains--go out.

Likewise he studies Grazing and knows the names of flowers
And every kind of forage plant the greedy Sheep devours
That Lambs should stint their appetite till the grass has gone to seed,
And beware of eating snowgrass and every noxious weed.

His Relations are most Public, he always tries to please,
By telling what the Rangers do to save the people's trees.
He lectures to the Sunday School and to the Ladies' Aid.
He celebrates Protection Week and rides in the Parade.
He knows the village editor and helps him all he can
He meets with the Kiwanis and joins the Ku Klux Klan.--G.F.A.

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## STATISTICAL REPORT 31YY-1-b USES OF PAPER CLIPS, PER 100,000

| | | | |
|---|---|---|---|
| Pipe Cleaners | 3,327 | Cleaning Cut Fountain Pen Feeds | 1,428 |
| Emergency Garter Clasps | 3,709 | | |
| Homemade Key Rings | 2,425 | | |
| Substitute Suspender Buttons | 1,730 | Wiring Down Corks on Home Brew | 7,829 |
| Picking Locks | 1,060 | Buttonhooks | 7,345 |
| Cleaning Typewriter Type | 4,294 | Bobbed Hair Restrainers | 14,759 |
| Lingerie Clasps | 5,306 | Non-skid Devices for Ladies' Belts | 2,550 |
| Toothpicks | 2,095 | | |
| Lapel Ornaments (Juvenile) | 1,920 | Repairs on Typewriters, Fans and Pencil Sharpeners | 3,237 |
| Nutpicks | 1,863 | | |
| Blackhead Removers | 1,428 | Mosquito-Bite Scratchers | 17,363 |
| Necktie Clasps | 1,607 | Ear Reamers | 2,926 |
| Hairpins | 5,143 | Clipping Papers Together | 627 |
| Fingernail Cleaners | 5,031 | Total | 100,000 |

(Correct) W. SNICKERS,
Efficiency Expert.
(Approved) FULLER FIGGERS,
Supt. of Statistics.

(Clipped from the Literary Digest)

Form 172

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1923-Feb.

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